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BETTER HEALTH FOR SCHOOL-AGE CHILDREN

a challenge to medicine and education

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MEDICINE AND EDUCATION have always had much in common, but in recent years they have come closer together in the fundamental concepts which underlie their approach to the specialized problems with which each deals.

Both, obviously, serve people. Both influence the behavior and attitudes of people, adults as well as children. Both are concerned with the growth and development of well and sick human beings. Both are motivated by a desire to contribute to happy and vigorous living.

Today's educator and doctor, thanks to their own better understanding of the way human beings grow in physical and mental health, and thanks to the contributions that science is making to everybody's thinking, are aware that they must deal with the whole body and person of a child, not just with a part of his anatomy or a fraction of his life or education.

Education has come a long distance from the days when it measured its success by the number of facts it had crammed into a child's head. It is recognizing that its real job is to prepare a child for living in a constantly changing world—a world in which the magic of science and the gadgets of living not only fascinate us but threaten our very lives. Educators know now that a child's attitudes toward himself and his neighbors, his capacity to meet new conditions and new relations, are vastly more important than knowing what happened in the year 1066—more important in terms of his own living and in the lives of those around him.

Similarly, psychosomatic medicine has made doctors more aware that a child's health is not necessarily just a problem of absence of germs or viruses. What happens to a child in school may produce an illness every bit as serious as an illness of definitely physical origin. We know, too, that a well child is not just a child who has no visible handicaps, or has no identifiable aches or pains.

What we are after, both educators and doctors, is to help in rearing a new generation of human beings who are buoyantly healthy in body and spirit; whose creativeness and sense of social responsibility are given the greatest possible opportunity for expression; who have an unshakable conviction of their own worth and the worth of other people.

This is the kind of positive health that we—as educators and medical workers—are after. This is the quality of people who, we are convinced, can build a truly democratic society. And that is the society we are intent on cultivating in our time, the kind of society we believe in.

Happily, we have reached the stage where doctors and school people who want to do something constructive for the better health of school-age children are receiving encouragement from citizens generally. A great deal of thought and planning is going to be focused this year, and in the immediate years ahead, on what to do and how to do it. I am convinced that all of us have a great deal to contribute to this thinking and planning.

But what are the facts that doctors and educators must face as they plan for the future health of our school-age children?

The first fact is that the health problems of these children are not what they used to be.

School medical services in this country are said to have started in 1894 in Boston and in 1897 in New York. The chief reason for establishing such services appears to have been the fear—and, indeed, the actuality—of contagious diseases. Not much was expected of the earliest medical service in schools. If it inspected children, and barred from school those who showed signs of contagious infections, it accomplished its purpose.

As the years have passed, and as other techniques for dealing with the common contagious diseases developed, the need for this kind of routine has all but disappeared. Diphtheria, to take but one example, a dread disease a half century ago, has been practically conquered—and not only by the device of examining school children, but chiefly by immunizing children in infancy. In 1900 the death rate from diphtheria was 40 per 100,000 population. Now it is less than 1 per 100,000—a tremendous reduction.

But present-day interest in making school medical services more effective for children arises not merely from the fact that we have about conquered the contagious diseases. We realize now that many other conditions handicap-

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ping children need attention, and that some of them are not detectable by the old-fashioned routine physical examination in the school, which was the foundation stone of the school medical service in the first decade of the twentieth century.

The Children's Bureau estimates that among persons under 21 years of age in the United States some 175,000 have cerebral palsy and 200,000 have epilepsy—neither condition, so far as we know, being contagious—conditions often ignored by routine medical services in schools. But these children not only need the best that medicine and education have to give, but in the vast majority of instances, can profit from that best. A half million children have handicaps requiring orthopedic or plastic treatment. Some of these children are receiving good care, either privately or under the auspices of State crippled children's programs, which since 1935 we have recognized as deserving the support of the Federal Government as well as of State and local governments. The Children's Bureau apportions to the States the funds that Congress appropriates each year to extend and improve these State programs. But despite the devoted service given to children by State crippled children's agencies, they are being forced every year to turn down thousands of children whose crippling condition could be improved, simply because there is not enough money. For example, at the beginning of 1949, the States reported that they knew of 30,000 crippled children who would have to go without the medical or hospital care they needed unless additional funds were forthcoming.

And what of other crippling conditions among our children of school age—poor hearing, poor sight, poor teeth, and so on? We do not know how many of these children are getting the treatment they require, but any teacher can tell you of at least one child who needs more or better care for one or more of these conditions than he is now getting. It doesn't make sense to force a child to go to school when he can't see the blackboard or hear the teacher.

I know youngsters—and I am sure everybody does—who are so worried over problems at home that they just can't settle down to their lessons. We are beginning to realize that they, too, are a "school health" problem.

Some investigators feel that the major problems of children of school age today are emotional. Others feel that we have not sufficiently recognized the extent to which nutrition plays a role in the health of the school child. At any rate, it seems clear that the health problems of children of school age are not what they were when most of the present health services in schools were set up. Some old problems do remain, however, of which hearing and vision probably rank first. In passing, it is of interest to note that the problems of ridding the child of specific disease may be of less concern than those of adding to his well-being.

This leads us directly to the second fact that faces doctors and educators in planning health services for school-age children—that although we know a great deal more about curing and preventing illness, we still do not know enough to do the good job we should like to do.

To be sure, we can take great pride in the distance we have moved since school medical services were first established. Of all the periods of life, school years are the healthiest. As I mentioned earlier, the common contagious diseases of children have been all but conquered. Antibiotics and the sulfa drugs have almost eliminated infections and pneumonia as causes of death and have prevented the complicated mastoid operations. New drugs have made the life of the asthmatic child much more comfortable, and new drugs can control epilepsy so that many children with this condition can now go to school just as their nonepileptic brothers and sisters do. We now know how to use surgery to save the child with congenital cardiac disease from death and to give him a chance to lead a normal life. We have new tools to control dental caries—adding fluorine to the water supply and applying fluorine directly to children's teeth—that may reduce caries by as much as 40 percent. We have new understanding of the physical and emotional growth of normal children, and we know how to help children avoid some serious behavior problems. But every educator and every doctor can tell you of a child with a physical or emotional health problem for which we seem to have no solution at present.

Two major difficulties need special emphasis: (1) Accidents are the leading cause of death for children over 1 year

A physical examination should be followed by remedying of the child's defects. If, however, the examination leads to nothing but a letter sent to the child's parents, it is often wasted.

of age. Some excellent work on accident prevention is going ahead, but we still do not know why it is that some children *seem* so much more prone to accident than other children. The deep psychological problems inherent in this should be explored. (2) Among all diseases, rheumatic fever is the leading cause of death in children of school age. Probably a half million children right now have this disease or have had it. Some thrilling developments in the treatment of rheumatic fever, by cortisone and ACTH, are going on, but we still do not know enough about the underlying cause of this disease to prevent it.

Research in the whole field of child growth and development is moving ahead, but slowly. For people who have been so generous in their support of research in the physical sciences, we are niggardly, indeed, in supporting research into the most basic problems of mankind—the problems that human beings encounter as they grow—or fail to grow—emotionally and socially, from infancy into adulthood.

Two years ago the Federal Government was spending, with congressional approval, $625,000,000 for research. Only about $28,000,000 of this was in the field of the health of human beings, and only a few thousand on problems of child health. This situation, as far as children are concerned, is little better today.

We need more research

Research, like the control of contagious diseases, has become, at this midpoint of the twentieth century, the people's business; that is, something that all of us must help to finance, something on which all of us must have our say. Research increases our skill in the business of helping children grow up healthy and happy. We must put to work all the scientists in the field of child development we can find—and there are too few of them—to help us discover how we can best cultivate in children those qualities of heart and mind that make for individual security and responsible citizenship. And specifically for school services, we must determine by scientific methods what the real problems of children of this age are—and then plan accordingly.

A third fact that doctors and educators face as they get down to the specifics of planning for the better health of school-age children is this: Present health services in schools not only are built largely on the beliefs of a quarter-century to a half-century ago; but they are haphazardly set up. They are set up so haphazardly that we cannot be sure that the children most in need of medical care get it.

The most informative and significant body of facts about what is actually being done for the health of children in this country was recently published by the Commonwealth Fund, under the title, "Child Health Services and Pediatric Education." This volume reports on the first Nation-wide survey ever made covering health services for a whole segment of our population. Both the method and the extent of this study, a cooperative undertaking by the American Academy of Pediatrics, with the Public Health Service and the Children's Bureau of the Federal Security Agency, were unique. Pediatricians themselves were the principal fact-gatherers.

According to the report of this survey, about half the counties in the United States have no school that offers a health examination by a physician. Anyone planning health services for school-age children must also face up to the kind of health care these children get outside of school. The Academy study showed that children in New York receive more than twice as much care as those in Alabama, not because New York children are more frequently sick but because medical-care facilities are more plentiful in rich States and communities. Children in isolated counties receive one-third less medical care than those in or near cities. For every 1,000 children in greater metropolitan areas, there are nearly 6 doctors; but in isolated areas, only between 1 and 2. In metropolitan and adjacent counties, there are 15 hospital beds per 1,000 children; in isolated counties, there are 8. States with low income and few services have a larger percentage of their population in children than do high-income States.

Every community resource for meeting the health needs of children must be considered in any sound plan for children of school age. We have, I hope, grown away from the notion that a program of health services for such children can be an isolated thing, unrelated to what we are doing for children outside schools and for children of all ages. The health problems of school-age children start with conception, not on the day they are registered for their first year in school.

Who should do what?

All this leads me to suggest there are six problems that we must resolve before we can go forward in building a modern, rational, and competent plan for the better health of our school-age children.

We need, first of all, to resolve a disagreement that has been hampering the development of good school health services for years. This controversy between educational and health authorities as to *who* is responsible for *what* services may have been inescapable in the past. By now it ought to be possible to resolve it, and I think we can do this on the basis of the general formula that was suggested by the Maternal and Child Health Section of the National Health Assembly, which met in Washington in May 1948.

". . . Differences of opinion," said this section in its report, "largely reflect an attempt to adhere to the dictum of single-agency administrative responsibility. Compliance with this dictum is impossible because, on the one hand, educational authorities have basic administrative responsibility for all activities taking place in the schools; and, on the other hand, health authorities have official responsibility for activities for safeguarding and promoting the health of all the community.

"The solution," continues the report, "lies in the direction of joint program planning and execution which recognizes the responsibilities of each agency and its respective area of competency. For example, the circumstances under which child-health examinations will be carried out are a matter of joint planning; the technical conduct of the examination and plans for corrective care are the responsibility of the health authority; whereas the use of the results of the examination for instruction is the responsibility of the educational authority."

I hope we can do more thinking along such rational lines as these. I hope we

Discussion of a child's health problems by nurse and teacher is a step toward solving them.

can stop bickering at the expense of progress in better health services for school-age children.

Another problem on which we must do some thinking is the relation of treatment services to examinations. Only in certain places and for specific conditions is there any adequate tie-up between the two at present. But a health examination that reveals a bad health problem in a child and ends with a letter to that child's parent cannot possibly be considered an adequate discharge of our social responsibility for good child health. It has shocked me to learn, for example, from some studies how children pass through some of our health examinations in schools, only to come back, at the next examination, with the very same defects that showed up earlier. In one State, for instance, of the 37,000 children found to have something wrong with their eyes, fewer than 8,000 children had had corrections by the time of the next examination. That kind of follow-up seems far from satisfactory. Certainly, knowing that children have defects is of little value unless we do something about correcting them.

We have an extremely complex situation before us in trying to figure out how we should go about insuring that something is done for the child who shows up in school with poor eyes, or poor teeth, or a bad heart, whether that condition is discovered in an examination on the gymnasium floor or in the doctor's office, or is merely suspected by the teacher or parent. The whole interrelationship between public and private services is involved here. Whose responsibility is it to assure good health for children? The delicate problem of how some parents can be persuaded to put a higher priority on the health needs of their children comes up. Is it really all a matter of persuading parents to put more of their money and concern into getting children to hospitals or doctors? How about those areas where really good diagnostic and therapeutic tools are not yet available? And behind both is the question: How much responsibility will all of us as citizens take to assure, through the taxes we pay, the availability of good health services where they do not exist now?

School work and good health

To me it seems stupid for us to pass laws forcing children with physical and emotional handicaps to go to school, to send truant officers after them when they are absent, and to flunk them out when they fail in their lessons, or spend funds to have them repeat grades, if, at the same time, we do little or nothing to help them with their health problems. And here I am speaking of both physical- and mental-health problems. We don't behave that way when we pass laws requiring men to serve in our armed forces. We make sure that they are *able* to do what the law requires. We ought to be even more scrupulous with young children.

Maybe those who are concerned lest these new ideas cost us too much or lead us to greater dependency on the State should take a look at the high cost of the penal and reform institutions we are maintaining for the care of adults, many of whose troubles might have been avoided if they had had the care they needed as children. And there is also the high cost of care in hospitals for adults with chronic illnesses, mental and physical. Of one thing I am sure, the further improvement of the health of our school-age children demands that we focus sharply on the problems of organizing our health resources to the end that a more effective scheme of getting results is evolved.

Still another problem has to do with research. I have touched on this before, so I merely mention it here again and in another connection. As an administrator of local and Federal programs for child health, I know how often those doing the job need more than a new drug to control a disease. They need research on the basis of which standards and guides can be developed against which to test practices. Administrators are too busy usually to develop these. Not all have the objectivity needed to work them out. If health services for school-age children are to be soundly developed, they must be constantly fortified and enriched by constant evaluation.

And then there is the problem of the shortage of trained personnel. The Academy of Pediatrics found that half the general practitioners in the country—and they supply three-quarters of the medical care children get from private doctors—either have had no hospital training in the care of children, or have had less than a month of such training. As in our total health problem in this country, we are right up against the hard fact that too few young people choose health services for their careers, and too few of those who do choose them get specialized training in the needs of children. Until last year I think no school of medicine or public health had specialized courses for doctors who wanted to do "school health." Any sound program of health services for children of school age must make provision for more and better training, as well as for more and better service.

Next on my list of problems is the

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relation of school health programs to the whole community health picture. Every educator and doctor dealing with a 6-year-old who is in trouble knows well how often the roots of the trouble go back into that child's preschool years. Most of us wish we could have been in on the trouble at the beginning to help both the child and his parents. We are not really going to build better health in school-age children if the services we provide them are developed in isolation from, or in competition with, our health program as a whole. It is time we faced up to this.

Finally, we are not doing as well as we should in helping parents with the rearing of children. Probably never before were parents so eager for guidance and assurance on their job as they are today. While there are many excellent demonstrations of close teamwork between doctors, educators, and parents, we need to multiply these many times, to spread them far and wide over the country. No one can dispute that the better understanding of infant care by parents has contributed greatly to reducing infant mortality in this country from 10 deaths per 100 live births in 1915 to 3 per 100 live births last year. Parent education was not, of course, the only factor in bringing about this great improvement, but it certainly was one factor.

We need more than parent education, of course. We need to make parents full-fledged partners in the development of our health services for school-age children. How we should go about that deserves our best thinking.

We should join our forces

Here, then, are six specific problems on which we must work if we are sincere about facing the health needs of school children. Here, indeed, is common ground on which educators and doctors can and must meet. The health of school-age children demands it. Now is the time to forget our differences and to join our forces.

Our national health and strength are much like stands of tall timber. We cannot take from them more than we plant without imperiling our survival. We must summon all our talents, all of our wisdom in education and in medicine to build sturdy mental and physical health for all of our children.

WHAT HEALTH SERVICES DO SCHOOL-AGE CHILDREN NEED?

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A CHILD born this year may expect to live to the age of 67 years. After he reaches school age and has safely behind him the risks associated with birth and early infancy, he may expect to reach an age of slightly more than 70 years. This is a priceless gift that scientific progress has bestowed upon him when one compares it with life expectancy of 50 years for the child born in 1900, and of 39 years for the one born a century ago.

Vital statistics such as these are heartening but they are not a conclusive measurement of the health status of people in this country. First, long life does not come to everyone just because of a statistical probability. Many who are children today will fail to reach the expected old age because the fruits of scientific advances are not available or because advantage of them is not taken.

And what about children who will live a full span of years? Is it enough simply to live 70 years? Certainly not if through those years one suffers from handicaps which might have been corrected or reduced. Longevity is not a reward sufficient unto itself in these days when the possibilities of optimal health are beginning to be appreciated.

If the goal of a full life is to be reached, the child of school age deserves added attention. The opportunities for improving health during this period have long been neglected, mainly because at this age the handicaps often are not conspicuous and not apparent in mortality statistics. The years between 5 and 17 are, in fact, the safest period of life if the threat of fatal illness alone is considered. This is no reason for complacency, however. The school age is marked by a host of physical and emotional disabilities which, though they do not endanger life, interfere with the best growth and development. Some of these handicaps could be prevented and others, if discovered in time, could be overcome. Even in the case of those advanced beyond correction, much can be done during the school years to lessen their effects. For many children the school age is notable as a period of unrealized potentialities.

The spotlight of scientific study, focused in the past on saving lives, is now turning toward ways to improve the health of people of all ages. School and community-wide health planning for children is being developed and certainly will receive increasing attention in years to come. It is fitting to reflect upon some of the features this planning for health improvement should include.

Health services for children of school age, if they are realistically conceived, will make use of up-to-date medical practices and will focus attention on the health problems that are known to occur frequently in this age period. All practical measures contributing to prevention of ill health and promotion of better health would be included, along with diagnostic and treatment services for those who need them.

Stressing preventive services

In all medical fields today there is pronounced emphasis on prevention and the more dynamic subject of health improvement. Advances in diagnosis and treatment have led to better understanding of the causes of poor health and ways to prevent it. Conditions for which, not long ago, there seemed no control except treatment are now looked upon as preventable. Once limited to sanitation, immunization, and quarantine, preventive medicine now offers a great deal to people of all ages and to school-age children in particular.

Beyond immediate control, but a major factor in the prevention of poor health in the school age is the influence of a child's family. The best promise of health a child can have is to be born of emotionally mature parents who are sufficiently loving and tolerant to accept him as he is and who are convinced of the value of continuous health supervision. This is the basic foundation of good emotional and physical health, without which no other measures will be completely successful.

Children who have this family background will have less need for treatment in the years to come. We can offer a preventive service to the children of the next generation by preparing today's children to be better parents when they grow up. A great many of the emotional disorders seen during the school years are brought on by the attitudes and actions of well-meaning but poorly prepared parents. Many of the physical health problems in this age group have become more difficult because parents have not realized that health supervision of their children in their doctor's office or in a public-health clinic is desirable throughout childhood.

As the child grows older

The health problems of the child of school age that are within the reach of prevention are in some respects identical with those of younger children. Other risks, however, result from the child's becoming more and more independent and leaving the environment of a small family unit to join larger groups in school and in his community. The most needed preventive services are those that are aimed at controlling the following prevalent conditions: (1) tooth decay, (2) accidents, (3) emotional disorders, (4) malnutrition, (5) infectious diseases, (6) unhygienic environment, and (7) insufficient convalescence after illness.

About 90 out of every 100 children need dental treatment, and it has been estimated that tooth decay is occurring about six times as rapidly as it can be attended to at the present time.

Dental decay is so common among children that it seems hopeless to try to keep up with it by treatment alone. About 90 out of every 100 children are in need of dental treatment, and it has been estimated that tooth decay is occurring about six times as rapidly as it can be attended to at the present time. The application of sodium-fluoride solution to healthy teeth at intervals of 3 to 4 years is a preventive procedure which promises to reduce the treatment problem to one which can be coped with more easily by the dental profession. This is a much-needed measure for the control of a widespread disease in childhood, which should be available to all.

We can help children to be safe

At practically every age during the school years *accidents* cause more deaths than any disease. Most accidents can be prevented and undoubtedly will be when their toll is appreciated. The rewards would be as measurable as those from immunization against the preventable diseases. In all our thinking about the health of children in the school age, priority should be given to teaching them how to swim, ride a bicycle, and drive a car, and to removing hazards which increase casualties. Accidents are particularly apt to occur in schools and on playgrounds because of the stimulus of group play and the demands of young bodies released from enforced inactivity. Thoughtful planning for safety is especially required in these situations.

Emotional disorders exhibited in "behavior problems" due to unhappiness and fear are so common during the school years that some authorities say one in every five school children needs expert help in order to regain his emotional health. Attitudes and reactions that lead to emotional illness are undoubtedly due more to home conditions in early life than to any other influence, but there are times when they are initiated or aggravated outside the family. Schools especially, and other community groups as well, have an opportunity to promote emotional health by considering each child as an individual with particular capabilities which can be developed, and further by helping parents to see their child in the same light.

Unrecognized *malnutrition* is surprisingly common among children during the school years, primarily because

Happy and understanding teachers, by creating a good emotional environment in the classroom, contribute as much to children's health as do the physical factors in the school environment.

only a minority of children seem to eat enough of the right kinds of food. An added factor is the harmful effect of physical and emotional illness upon nutrition. One of the main reasons why deficiencies in nutrition have not caused enough concern is the general reliance on a child's weight as a good index of nutrition. As body weight is largely an indication of the amount and not the kinds of food in the diet, serious deficiencies of one or another essential substance in the diet may be present while the child actually gains weight.

Detection of malnutrition is often difficult, and this condition may exist many years unnoticed. The logical way to solve the problem of malnutrition is to try to provide an adequate diet for all children so that subnormal health and need for treatment do not develop. The ways to do this will vary with circumstances. Some parents simply need to know more about the variety of foods a child needs for growth. Many times, however, they need aid in obtaining a diversified diet which does more than appease hunger. Schools have a chance to help solve the problem through their school lunch, which could go a long way toward making up lacks in the children's diet at home.

Those *infectious diseases* which once caused so many deaths among children of school age have now been brought under control through immunization and modern methods of treatment. Every child should have the advantage of immunization against smallpox, diphtheria, whooping cough, and tetanus. Protection against the first three of these is not merely a matter of personal concern, because a child who contracts one of them is a source of infection to everyone around him. These immunizations, and that for tetanus (because it can be prevented but not treated satisfactorily) should be available to all children from some source, whether a private physician, a health conference, or a public-health agency. Ideally, initial immunizations would be completed during infancy so that stimulating doses only would be required during the school years. Children who have not been immunized should be given this protection as soon as possible, except that when whooping-cough immunization has been delayed until the child is 5 years old it is questionable whether this step should be urged.

Fortunately most of the communicable diseases that threaten life are preventable. The milder contagious diseases of childhood, and colds, are exceedingly common, and cause more than half of all school absences. At the present time there are no specific measures for the control of these diseases. Experts agree that much more research is needed before the use of ultraviolet lamps and glycol mist vaporizers can be recommended. Current enthusiasm for preventing colds by drugs that are primarily effective in allergic conditions must be looked upon with the same caution.

One service much needed for the promotion of health is the furnishing of *wholesome surroundings* for children in all their activities. Good lighting, proper heating and ventilation, sanitary toilet facilities, clean rooms, pure water and milk, uncontaminated food, teachers and bus drivers who do not have tuberculosis or other contagious diseases—all of these are taken for granted many times when they are not guaranteed at all. In the home, at school, or elsewhere in the community, the health of children is vulnerable to conditions in the environment which can be controlled. It is worth remembering that happy and understanding teachers, by creating a good emotional environment in the classroom, contribute as much to children's health as do the physical factors mentioned above.

It is a paradox that so much time and enthusiasm have been spent on trying to control colds and related diseases while scarcely any thought has been given to helping children during *convalescence from illness*. Parents have some responsibility in preventing a child's precipitous return to activity, but schools can do even more by giving pupils a chance to get back gradually into a full program after an absence due to illness. School schedules cannot always be elastic enough to give every child an individual program, but work missed during illness, and participation in the regular recreation and physical education programs, can usually be postponed several days until recovery has progressed further. The tendency to return children to school too early in convalescence is magnified when

school appropriations are based on average daily attendance.

Preventive medicine depends to a large degree upon the amount of health information children and their parents have. Health education in schools and elsewhere in the community is in the same category with other needed preventive services, as it leads to attitudes and actions that make the services more effective.

Preventive services not enough

Unfortunately preventive services do not guarantee good health for every child, even when they are most effectively applied. On account of heredity, or of other factors beyond control, there will always be some children who need medical care. The acute or sudden illnesses, though common, are usually soon apparent and are not difficult to diagnose. It is a challenge today, however, for us to find children of school age who are suffering from an unrecognized handicap or one believed by them to be hopeless, so that they too may benefit from the medical advances of recent years. This is indeed a problem of no mean proportions in view of the fact that among our children of school age there are millions with defective vision, with impaired hearing, with imperfect speech, or with significantly poor nutrition. In addition to these children, there are many thousands of children with cerebral palsy, epilepsy, residual effects of poliomyelitis, congenital heart disease, and birth injuries. These conditions, for which treatment or rehabilitation is so necessary, might easily be neglected until their effects cannot be remedied.

Discovery of children in need of medical attention is not a task for medically trained people alone. Parents, teachers, nurses, social workers, and many others who are closely associated with children frequently can steer those with health problems into the channels that lead to diagnosis and treatment. Mothers and fathers are usually expected to be alert to signs of ill health in their children. Others outside the family can be equally observant of any unusual behavior or appearance that leads to a suspicion of impaired health.

In addition to continuous vigilance by those who are with children a great deal of the time, a few important survey or screening tests are needed, preferably at yearly intervals, to disclose conditions that are not readily apparent to observers. The most significant screening technics are tests for visual acuity; a hearing test with an audiometer; determination of height and weight to learn whether growth is occurring; and chest X-rays of boys and girls who have reached adolescence.

Complete physical examinations have been looked upon traditionally as the bulwark of a case-finding program in the school years. The value of thorough examinations cannot be denied, for they do disclose conditions which can rarely be suspected in any other way. But when professional services are limited, there is a danger of overemphasizing medical examinations and inspections to the detriment of equally important preventive services and follow-through on children already known to need remedial services. After a thorough examination and health conference to establish a base-line of health status, a plan of continuous observation and screening tests bearing on common health problems, supplemented by examinations judiciously performed when there is suspicion of ill health, is usually more reasonable than repeated routine examinations.

All the skills and technics modern medical science offers are needed by the child with a suspected health problem. Research has advanced the understanding of physiology and of disease but at the same time it has made diagnosis more complex. Diagnosis nowadays usually requires resources not found in schools or even in the average physician's office. Treatment, however, depends on accurate diagnosis, so that the advantages of laboratories and diagnostic equipment and the services of specialists are as indispensable today as was the fever thermometer in bygone times.

As part of our safety planning for children of school age we should teach them not only to avoid injury, but, in case of minor hurts, how to take care of themselves as far as possible.

The benefits of accurate diagnosis are not limited solely to children who need treatment. There are also those who are temporarily or even permanently consigned to the ranks of the sick and disabled on insufficient evidence. Adequate study of such children returns a host of them to normal pursuits without any need for treatment. An outstanding example is seen in the investigation of children with heart murmurs: In the final analysis only about 1 out of 15 or 20 children with such murmurs

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SCHOOLS ARE A FERTILE FIELD FOR MENTAL-HEALTH EFFORTS

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QUITE A VARIETY of methods have been utilized, alone or in combination, in the cause of mental health in schools.

A few wise boards of education have child-guidance clinics of their own, with psychiatrists, psychologists, and psychiatric social workers. A psychiatric team within a school system can handle referral and treatment of cases efficiently. But there must also be a real effort to carry the meaning of the child's problem back to the principal and the teacher who made the referral so that they can learn how to do their part for the child and others like him. In addition, the psychiatric staff can provide more formal training for the teachers, administrators, and nurses. The emphasis in such training should be on normal emotional development and the meaning of common minor disturbances rather than on the more serious diseases.

Some other school systems, which do not have a psychiatric staff exclusively their own, do have some claim on local psychiatric facilities. This is important even when there is little cooperation and exchange of information between the two institutions. For, if the school system attempts to set up any kind of guidance program with trained, though not psychiatric, personnel, these workers will be perplexed and frustrated by the occasional child who is really disturbed and whose problems are beyond the scope of the guidance personnel unless they can have psychiatric supervision or consultation.

Most noticeable among efforts to improve the mental health of school boys and girls has been the growth in the last two or three decades of guidance or c o u n s e l i n g programs. These vary greatly in scope. Some are highly developed and effective; others are hardly more than gestures. The best programs are directed and integrated by full-time guidance counselors. In others the principal or assistant principal doubles as director of the program, and the classroom teachers double as counselors.

Although the figures available do not present an accurate picture, some idea of the status of guidance programs in schools may be gained from the fact that the number of trained guidance workers in schools in the United States increased, between 1937 and 1945, from 2,000 to 8,000. In one State, New Jersey, the percentage of schools claiming some type of guidance counselor increased between 1930 and 1947 from 42 percent to 99 percent.

To obtain a realistic picture, we must, of course, look beyond statistics. For example, a recent survey of high schools in the North Central States seemed to show that 75 percent had the minimum essentials of a guidance program. The actual incompleteness of many of these programs, however, is indicated by the fact that though 7 out of 10 schools said that classroom teachers were responsible for part of the counseling, only 1 out of 8 gave the teachers free time for it. One in 3 gave reading tests, but only 1 in 7 discussed the implications of these tests with the pupil. Only 1 in 5 had a trained full-time worker in charge of guidance.

The nature of the guidance varies too. For example, in one program the help offered is confined to psychological testing and remedial tutoring. In another it is largely vocational testing and guidance. In the best programs an effort is made to take cognizance of the total adjustment of all pupils and to cope with maladjustment in any sphere.

Another indication of the growth of guidance services is the steady increase that has been taking place in the number of universities offering courses in counseling and in the number of candidates for training.

A psychiatrist would be concerned not only with these visible inadequacies in guidance programs but also with the philosophy of whatever guidance is given. How deep does it go in understanding the roots of the child's problem, whether it is reading disability, indecision about future occupation, or social self-consciousness? Without depth of understanding, the adviser cannot be of much help and may occasionally do harm.

When I was first being told about the functions of the school counselor by that wise educator Caroline Zachry, I, feeling that even the most thorough of psychiatric training did not necessarily produce a sound psychotherapist, was shocked at the idea that persons without any training concerning mental disease would be dabbling in guidance.

Dr. Zachry patiently pointed out that there is no such thing as *no* guidance, *no* treatment. The school, like the home, reacts to each child's problem in some way or other, wisely or unwisely, knowingly or unknowingly, and it is better in the aggregate for the school to be making efforts to understand and help, even though these efforts often miss the target. Dr. Zachry believed, as physicians and others do, that schools should have the services of a psychiatrist, on a full-time, a part-time, or a consultative basis, to back up the counselors.

One worker who has done a great deal for the adjustment of boys and girls is the public-health nurse, who has worked hard in our schools for many years. Often she has been the main link between home and school, gathering valuable information for the teacher, interpreting school policies to the family, helping both parent and teacher to understand the child better and thereby to handle him better. In this work she has been a potent aid to mental health, whether she thought of it that way or not.

Now, like the physician and the teacher, she wants to know more explicitly about human relations and emotional development and behavior dis-

turbances. She needs this help not to branch out into new lines of work but to do more wisely the job that she is already doing.

Some school systems have obtained the services of social workers to provide a skilled liaison between school and home, and have been enthusiastic about the results. The school social worker brings to her work a training in interviewing, and in dealing with human relations, which is not usually provided in the training of the public-health nurse; and she lacks, of course, many of the nurse's skills. Yet both are valuable in the field of mental health; there is plenty of work, and to spare, for both. If they are both utilized in the same school system, there is much they can teach each other.

The clinical psychologist certainly has a vital role in the school system. Intelligence testing, achievement testing, diagnosis of disabilities, and remedial work are all basic to understanding and planning for the child's educational and emotional needs. The psychologist's usefulness, like that of other workers with children, depends most on his soundness in understanding and handling the emotional aspects of their problems.

Both the psychologist and the school social worker can work more efficiently and safely when they have the opportunity to collaborate with a psychiatrist.

Remedial teachers also have a great mental-health contribution to make to pupils, since a reading disability can shatter a child's adjustment as quickly as any other factor. Since emotional factors, primary and secondary, often are tangled with the presumably constitutional factors, such remedial work is most reliable when combined with psychiatric evaluation and treatment.

Another approach to mental health in schools is the inclusion of the subject in the curriculum, just as physical hygiene has been there for a long time.

A sampling of the contents of mental-hygiene courses shows a wide variety of topics handled and a wide variation in basic philosophy, as would be expected. Some provide sensibly for class discussion of everyday problems like etiquette, dating, popularity, common worries and concerns in adolescence, family relations. The value of such a course depends on the attitude and skill of the teacher, his own wholesomeness, his sensitivity to adolescents' feelings, his success in evoking student discussion. Some other courses get lost in impersonal discussion of factors in mental health and disease which have no meaning for children.

The wise educator and psychiatrist would question putting the main emphasis on a single separate course, just as they question the advisability of compressing sex education into a separate course. They insist that the relationships between men and women and boys and girls, the relationships between parents and children, the relationships of the individual to the world and to himself are not peripheral subdivisions of life but the very core of life itself. If so, they should be the core of the curriculum, from nursery school through professional school.

In other words, mental health in the sense of multiple adjustment to life is something that can be practiced and learned about all day long, all childhood long, if the teacher understands children and her job. She develops interest in school work by gearing it to her pupils' level and angle. She develops a sense of responsibility by allowing fullest student participation in choosing, planning, and executing the year's projects; she fosters respect and affection among pupils by helping each subgroup and committee of the class to find and call forth the best capabilities in each individual.

As the curriculum becomes more crystallized in the upper grades, there is still opportunity in most subjects to start with the human aspects and to let the students bring it back again and again, in discussion, to their own lives and feelings. There is room for discussion of vocational adjustment in geography, in history, and in chemistry. There is sex education in the broadest and best sense in "Idylls of the King," as well as biology, if the teacher will let the students bring it out. When these opportunities are lost, the result is not just a zero increment to mental health; there is a subtraction from it. When the biology course postpones getting around to human beings till the last month, and nervously skimps study of the reproductive system in the last two

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The school, like the home, reacts to every child's problem in some way, knowingly or unknowingly, and it is better if the school tries to understand and help, even though it may fail.

TO HELP THE CHILD WITH A SPEECH HANDICAP

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AT LEAST 2 million school-age children in this country have serious speech disorders. Definitions of defective speech vary greatly, but we are not here concerned with mild and unimportant imperfections in speech, which are very common, of course, particularly at the younger age levels. At the age of 6, for example, the average child still does not produce 10 percent of the speech sounds correctly, but we do not call this average child a speech defective on this account. In fact, for purposes of the present discussion, we are not talking about any child who is below school age and we are concerned only with children above the minimal school age whose speech is so distorted, blocked, or undeveloped as to penalize the child significantly with respect to educational progress and basic development as a normal social being.

Speech defectives, on the whole, make up the largest single group of seriously handicapped children in this country.

Among every 10,000 school-age children there are, by conservative estimate, about 700 with speech and voice disorders of educational, vocational, and personal or emotional significance. Of these, 400 have disorders of speech-sound formation (articulation); 150 have speech and voice disorders associated with serious hearing loss; 60 stutter or stammer; 50 are seriously retarded in speech development; 20 have speech and voice disorders associated with cerebral palsy or other neuromuscular impairments affecting the speech mechanism; 15 have other significant voice disorders; and 5 have speech and voice defects associated with cleft palate and harelip.

Of these 700, approximately two-thirds (about 500 per 10,000, or 5 percent of the school population) are to be classified as speech defectives only; that is, aside from their speech difficulty they are, as a group, physically and mentally normal. The other one-third have speech or voice problems that are associated with some other handicapping condition, such as a hearing loss, cleft palate, or cerebral palsy.

Speech defect brings frustration

Next to caressing and fondling, speech affords the most intimate exchange of feeling between mother and child and also between the child and other persons, young and old, closely associated with him. The failure of speech to develop, therefore, or the grave distortion of its normal forms, deeply frustrates the child in his struggle to achieve the sense of security and social belonging that is essential to his healthy growth as a human personality.

This means chiefly that when adult speech defectives are closely studied it is found that their established patterns of social adjustment are those of fundamentally normal persons who have had to contend with persistent and demoralizing frustration in their attempts to compete with and cooperate with other persons. They have been affected by their speech frustrations in ways that have led, in many cases, to difficulties relating to love and marriage, to serious educational handicap, to a probable average loss in earning power of more than 25 percent, and to feelings of discouragement and inferiority that are important in ways that all of us can deeply appreciate.

It is clear to all who will spend a

If a child has a speech disorder, the earlier in life we start remedial instruction the better.

moment in thoughtful reflection that for the vast numbers of children who need speech correction, nothing else our schools offer these children can compare with it in importance.

It is to be greatly emphasized from a practical point of view that the speech handicapped, as a group, are capable of being rehabilitated in large measure, provided they are given the best remedial instruction now available. What is even more important is the fact that in the kindergarten and in the early grades preventive programs can be very effective. In children who have developed speech disorders, the earlier in life remedial instruction is started the better.

In all probability not over 10 percent of our school children who need speech correction are getting it today. In fact, there are stuttering children in this country who would have to travel a thousand miles or more to reach a clinic in which they might expect to obtain substantial benefit.

For a quarter of a century the American Speech and Hearing Association has devoted itself to the needs of the speech handicapped. It has worked effectively to improve standards and to develop more and more effective methods in speech correction. Information from this association indicates that there are probably about 2,000 speech correctionists in this country who have at least minimal professional training. What the association would regard as highly adequate training is possessed by considerably less than a thousand of these workers. On the basis of caseload experience, and allowing for long-term success of an effective national program of speech correction, it is clear that for every speech correctionist now working there is need for about 10 or 12 more. We need, so far as we can now determine, about 20,000 speech correctionists in the United States. It does not appear likely that we will come within hailing distance of this number for at least another generation. Alert high-school seniors can find in speech correction an exciting frontier where they will find as much challenge and glamour as they are likely to come upon anywhere in the world of human work.

Articulatory disorders are the most common of the speech defects. They make up 70 to 85 percent of the problems among public-school speech-correction cases. One particular sound, the "s," is especially troublesome; nearly half of the children who have articulatory difficulties have a defective "s" sound. Whether it is the "s" or some other sound that is involved, an articulatory defect consists in omission of the sound as in "pay" for "play," or substitution of one sound for another as in "thun" for "sun," or a distortion of the sound as in the case of the whistling "s" or a slighted "l." Once the child reaches school age, and particularly after he completes the first grade, expectation that his speech-sound formation errors will correct themselves without special training is not great. After the fourth grade, very little improvement occurs without special remedial instruction. If you would like to know whether such speech difficulties are of any importance, your question would probably best be answered if you had to address an assembly, speaking with a pronounced "s" lisp, substituting the voiceless "th" for the "s" sound as in "thoup" for "soup." If you would do this consistently during a 20-minute speech you would probably never again have any reason to doubt the handicapping and demoralizing significance of even such a simple speech disorder.

Different causes, different remedial care

Among the more important disorders of voice are harshness, hoarseness, breathiness, and excessive nasality. Also, the sound of the voice can be too loud or too soft; the pitch level can be too high or too low; the rate of speech can be too fast or too slow; and the voice can be monotonous.

Now, these articulation and voice disorders can be found by themselves, so to speak, in the absence of any physical or organic abnormalities. In the vast majority of articulatory cases there is nothing physically at fault. In children who do have some kind of physical impairment, such as those with cleft palate or cerebral palsy, speech is affected mainly with respect to voice and articulation. Moreover, the kinds of voice and articulation problems that such children have are essentially the same as the kinds that are found in children who do not have physical impairments. The methods of remedial instruction used in the two kinds of cases, however, are necessarily different in certain respects. The child who does not have a cleft palate can go at the job of correcting an articulatory error by using methods that would not be possible for a child with a cleft palate.

Besides disorders of voice and articulation, there is one further basic type of speech defect: disturbance in the fluency or rhythm of speech. Disturbed speech rhythm is to be found in various forms, and it is important that these be kept distinct. In some cases of cerebral palsy, for example, the speech is slow, labored, and jerky. This is an example of disturbed speech rhythm due to basic organic cause. In some cases of brain damage, speech may be blocked rather badly or it may be mechanically repetitive. In certain psychiatric cases there is a kind of blocked utterance. There are also normal speakers who talk very fast and stumble over themselves, so to speak. Their speech is somewhat jerky and indecisive at times.

Quite different from all these is the disturbance in speech rhythm that we call stuttering. Some people call it stammering, but nowadays speech correction workers regard these two words as synonyms, and they prefer the word stuttering. Since 1925 probably few human disorders have been studied scientifically any more thoroughly than stuttering. It has been investigated in the laboratory by means of brain-wave analysis, personality tests of various kinds, biochemical analysis, measures of motor coordination, tests of intelligence, and elaborate methods of case study. The upshot of all this scientific investigation to date would seem to be that apparently stutterers are not only physically normal, but also, in any sense that would interest a psychiatrist, they are psychologically normal.

In most cases that have been studied early and in meticulous detail, the story seems to be that a child speaking with a normal number of hesitations and repetitions has come to be worried about by his parents—occasionally his teachers.

The average child between the ages of 2 and 5 years repeats a sound, a word, or a phrase about 45 times per 1,000 running words in spontaneous speech. In some the frequency extends up to about 100 times per 1,000 words, and all children do some repeating. To some fath-

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ers and mothers this sounds abnormal; others ignore it completely or don't even hear it. The parent who regards it as abnormal tends to worry about it and to worry the child about it. They do this by facial expressions, by postural tensions, by tone of voice, or by actually calling the nonfluencies to the child's attention, asking him to stop and start over, to take his time, to take a breath, and so forth. Sooner or later the child reacts to all this concern by speaking less and by doing the speaking he does more hesitantly, more self-consciously, and with decreased confidence. This intensifies the parental concern and the parents redouble their efforts to be "helpful."

Speaking should be fun

As the child tries harder to do better, effort and tension appear, blocking his speech all the more. Parental anxiety increases still more accordingly, and the child tries still harder to do still better, generates more tension, and loses more confidence into the bargain—and so the vicious circle proceeds. In general, stuttering seems to be caused mainly, in a great majority of cases, by parental anxieties concerning the normal imperfections of childhood speech—and by the elaborate train of consequences that such anxieties tend to set in motion. Once started, stuttering can be aggravated by any and all factors that tend to make for maladjustment and lowered efficiency—and these in turn tend to be aggravated by the stuttering itself.

Parents and teachers can help stuttering children most by doing nothing to make them lose confidence in their ability to speak acceptably. It is best, of course, never to call their attention in disapproving ways to the normal imperfections in their speech in the first place. Speaking should be fun—even the hesitant, unclear speaking done by normal children. Once tensions and fears in the child's speech have been brought about, everything possible should be done to remove them. The child should be encouraged to talk, he should be listened to attentively, and what he has to say and the way he has to say it should be thoroughly enjoyed by his parents and teachers. The child should be respected and loved generally. Such treatment will turn out to be as beneficial for the parents as it is for the child—for it is very good for us to do what we should do in order to help children accept themselves wholesomely and develop confidence and a sense of security.

Everyone interested in schools and in children should never for a moment set aside this basic consideration, previously mentioned, with regard to the speech-handicapped: That the schools simply have nothing else to offer them which can begin to compare in importance with effective speech correction.

Speech correction is work that requires special training. This is true, of course, of any work that is done with handicapped children. One of the most serious aspects of the problem today is that speech correction is a relatively new field; and many school administrators do not yet understand that the kind of special training required of the speech-correction teacher is quite different from that required of classroom teachers, including classroom teachers of speech. In the interests of the handicapped children concerned, the American Speech and Hearing Association should be called upon for information concerning the nature of professional qualifications in this field. (The officers of the American Speech and Hearing Association may be reached at this address: The Speech Correction Fund, Tenth Floor, 11 South LaSalle Street, Chicago, Ill.)

Over half of the 48 States now have some kind of legislation that recognizes the special needs of speech-handicapped school children. These laws, now on the books, need to be more fully activated, and laws need to be enacted in States that do not now have them. But before laws can be passed or made effective, there must be sufficient interest and determination on the part of enough people. If you are a teacher or a worker in any other field concerning children, or if you are the parent of a speech-handicapped child, or if you are an adult with a speech defect and understand the problem that speech-defective children face, or if you are a public-spirited individual who does not like to see neglect and unnecessary hardship, you have some things to say to your school board, to your school principal or superintendent, and also to your legislative representatives.

WHAT are the best methods for testing elementary-school children's sight so that those with poor vision may be referred for care? Who can give the tests most successfully? And are these procedures reliable for testing the sight of younger children? These are questions, among many other important ones, that public-health workers and educators are asking. And these are the three of basic importance that the St. Louis study of vision testing has been set up to answer. Finding the answers to these is as much as can be undertaken in a single study.

A study of vision testing recommended

The study began after a group of leaders in the field of health services for children of school age were called together in June 1947 by the National Society for the Prevention of Blindness and the Children's Bureau of the Federal Security Agency. This group met to consider what might be done to evaluate the various procedures for testing the vision of school children, and it unanimously recommended that a special study be made for this purpose. It also made helpful suggestions on how the study should be conducted.

St. Louis schools selected for the study

Upon this recommendation, such a study was set up in the St. Louis public schools, sponsored by the National Society for the Prevention of Blindness, the Missouri Division of Health, and the Children's Bureau. St. Louis was selected as the place for the study because cooperation was offered by the St. Louis Board of Education and the Department of Ophthalmology of the Washington University Medical School.

The program in the schools was begun in February 1948 and was completed in May 1949. The data are now being analyzed and interpreted, and we

WE STUDY TESTING OF CHILDREN'S EYESIGHT

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After we have the results of the St. Louis vision-testing study, we shall know much more about which tests of eyesight are most suitable for use with children of elementary-school age.

expect to have some conclusions by late in 1950.

In an ideal health program for children of school age every child's eyes would receive a complete examination by an eye specialist. Because in most schools this is not possible, a screening procedure must be set up to select the children who need such an examination. Any screening method is a rough test and cannot be 100 percent perfect, but a good screening procedure is one that selects the greatest proportion of the children who need medical observation or treatment of their eyes, including especially children with serious defects, and the smallest proportion of those who do not need such care. A good screening procedure is also one that can be carried out within a reasonable amount of time and that does not require extensive training for the tester.

Various vision-testing methods in use

The Snellen chart has long been in use as a screening device. In the form of the Illiterate E chart it can be used for testing children in kindergarten and first grade. The most frequent criticism of it is that, as ordinarily used, it tests only one function, far-visual acuity. Often it is used incorrectly by persons who do not appreciate the need (1) to have an accurately constructed chart; (2) to have correct illumination; (3) to maintain the 20-foot distance; (4) to prevent giving the children opportunities to memorize the test lines, and (5) to encourage each child to read as far as he can. There are differences in the standards according to which a child is referred to an eye specialist.

The Massachusetts Vision Test was developed in an effort to devise a simple screening procedure that would find children with certain eye defects that might not be detected by testing with the Snellen chart alone. The procedure includes a test with the Snellen Illiterate E chart for ability to see distant objects clearly, and tests for far-sightedness and for imbalance of the eye muscles. It is so designed that, for each part of the procedure, performance is tested only at the critical point, and the results are recorded in terms of passing or failing. The critical point for each test has had to be set arbitrarily, on the basis of expert opinion, because there are no established criteria for what is, or is not, satisfactory performance with relation to each function. It is perhaps inevitable that some authorities question the points at which these tests make the break between satisfactory and unsatisfactory performance.

The Keystone Telebinocular Test differs in several respects from the tests that use the Snellen chart. The Telebinocular provides a series of test slides or targets, which the subject views through a specially designed stereoscope in which lenses create the theoretical equivalent of distance. Vision in one eye is tested with the other eye open, a technique that is claimed to give a better test of "usable vision" than procedures in which the other eye is closed. Targets are provided for tests of far and near visual acuity and muscle balance, and for tests of fusion and depth perception. The significance of some of these tests has been questioned.

Other vision-testing procedures are being used for screening the vision of school children, but these three represent the general types of testing.

Use of teachers' observations

In addition to the evidence obtained from testing procedures, valuable information about the presence or absence of eye difficulties can be obtained through observation of the child. The

teacher, more than anyone else in the school, has the opportunity to see the child's behavior under various conditions. She knows his school progress and, if she is interested, can know his health history. She can often recognize children who should be referred for eye examination if she is familiar with the common signs of visual disturbance, such as frowning or squinting when looking at objects, tilting the head or thrusting it forward in an effort to see better, or holding objects closer to or further from the eyes than is normal. Health programs in different school systems vary greatly in the emphasis that they place upon the teachers' observations; the programs vary from almost complete disregard of the contribution the teacher can make to dependence on teachers' observations alone or on teachers' observations plus a test with the Snellen chart, as the basis for referral for an eye examination.

Who should do the testing?

Not only does the question arise of what vision-testing procedure should be used, but of who should do the testing. Should it be the classroom teacher, or one teacher for the entire school, or the school nurse, or a technician who does all the vision testing for a group of schools?

The amount of training that can be given the different types of testers will vary. The classroom teacher can easily learn to give a simple test, but it would not be practicable to train every teacher in more elaborate testing procedures. The school nurse, or a teacher who is selected to do all the testing for an entire school, can be given a longer training period. A special vision-testing technician, who tests the children in a group of schools, would be expected to have more training and experience than a nurse or teacher who tests in one school only.

In some programs the classroom teacher has primary responsibility for selecting the pupils who require special attention for any health condition. The teacher, because she has an intimate acquaintance with the child, may be in a better position to evaluate the child's performance in a vision test than another tester would be, and the child may do better if the test is given by the teacher, with whom he is familiar. On the other hand, some believe that school nurses, rather than teachers, should carry the responsibility for the health program.

Opinions vary, therefore, as to who should administer the vision tests in a school, but no real evaluation has been made of the relative efficiency of the different types of testers.

Should testing begin with the first grade?

There is lack of agreement also on the value of vision tests for beginning readers. It would certainly be helpful to be sure that a child can see normally before trying to teach him to read. But whether the vision-testing procedures are sufficiently reliable with young children to give dependable results is questioned. If they are not reliable, a vision-testing program for children entering the first grade is a waste of time and may give misleading results.

To find out whether a screening procedure is successful we must compare its results with a standard. The standard for the success of screening tests for eyesight is the decision of the ophthalmologist as to whether or not the children selected do need observation or treatment because of any condition related to their eyes.

One of the difficulties in evaluating vision-testing procedures has always been that no definitions have been established of the smallest degree of abnormality of the eye for which observation or treatment is needed. The many factors that can be involved in a diagnosis of an eye condition make it very difficult to set up any such definitions; the decision regarding treatment is based upon clinical judgment, which takes into account the various factors involved in the individual case. In borderline cases one eye specialist's decision as to whether treatment should be given may differ from that of another.

In the present study, in order that the clinical judgments with which the results of testing procedures are compared may be accepted as a reliable standard, the following plan was adopted: The results of the screening procedures are compared with the findings of clinical examinations given in a medical school department of ophthalmology of recognized standing in its field. The examinations are given by a small number of ophthalmologists, each giving one part of the examination to all of the subjects, so that the procedures followed are uniform. All clinical judgments as to whether the findings indicate need for observation or treatment are given by one ophthalmologist in this group. An advisory committee made up of outstanding specialists in ophthalmology works with this ophthalmologist to establish, insofar as possible, definite criteria upon which the clinical judgment is based.

The screening procedures being evaluated in the study are the following: A teacher's report of symptoms observed and of whether, in her opinion, the child needs to be referred for an eye examination; a test with the Snellen chart; the Massachusetts Vision Test; the Keystone Telebinocular Test; the American Optical Co.'s Sight-Screener Test, and the Bausch and Lomb Ortho-Rater Test.

The last two screening devices have been developed primarily for use in industry and have not been adapted for use with children. But because they are being rather widely used and might be made suitable for school use, it seemed wise to include them in the study. Both use stereoscopes through which the subject views test targets, but there are certain important differences between them, and between each of them and the Telebinocular Test.

We include a test for near vision

In addition to these procedures, a simple test of near vision was given. Opinions differ as to the value of any test of near vision for children. Some say that because a child is expected to use books in his school work, it is important to test his vision at the near point. Others say that, even though he may have a considerable degree of farsightedness, a child has such powers of accommodation that he will be able to focus on a near-point test chart long enough to pass the test satisfactorily, even though he could not read at that distance for any length of time without discomfort. It is hoped that including such a test in the study will help to answer the question of its value.

The children who were tested

The children whose vision was tested were pupils in the St. Louis public

schools in the first and sixth grades. We studied pupils in only two grades so as to have large groups of children of approximately the same age, and to eliminate the variations that might be due to differences in age. The sixth grade was selected because pupils of that age can give full cooperation. The first-grade children were studied to determine whether the tests are reliable for young children. In the 14 schools in which the study was conducted, all first- and sixth-grade students were tested except those whose parents refused permission for the clinical examination. The children tested—about 600 in each age group—will, it is hoped, have provided enough data for reliable statistical analysis. The Ortho-Rater and Sight-Screener Tests were administered only to sixth-grade children because the test targets of these tests are not suited to children who cannot read.

Three types of testers

In order to obtain information as to who can administer the tests successfully, three types of testers were used: (1) The teacher, who reported her observations on the children in her own class and gave them the Snellen Test; (2) the school nurse for each school, who gave all the children in that school the Telebinocular, the Sight Screener, the Ortho-Rater, the near-vision, and the Massachusetts Vision Test (the Massachusetts Vision Test includes a Snellen Test); (3) one technician, who tested all the children included in the study, giving the same tests that the nurses gave.

Each child was tested by each of the three testers, and each tester gave to each child the entire series of tests for which he was responsible. Thus every first-grade pupil received 7 tests and every sixth-grade student 11 tests. In addition, every child was given a complete ophthalmological examination, with the pupils of his eyes dilated by drops.

Each test was given according to the procedure recommended by those who developed it. Before the testing program was started there was a training period for the study personnel. For each test, except the Snellen and near-vision tests, a member of the group that developed the test spent about 2 days with the staff, demonstrating the procedure to be followed. Special training was given to the technician chosen for the study and to a school nurse assigned full time to the work, to whom the title of "nurse-coordinator" was given.

Before we began the testing program in an individual school, the nurse-coordinator spent a week training the school nurse in the testing procedures and instructing the teachers of the first and sixth grades in administering the Snellen test and in recording observations. A prescribed plan of training was followed, so that each nurse received exactly the same instruction. Uniform instruction was also given to the teachers. Pupils from classrooms other than the first and sixth grades served as practice subjects.

Randomization of testing sequence

The possibility that the experience of having one test might influence a child's performance when he was later given another test made it necessary to randomize the order in which the pupils went to the different testers and the order in which a tester administered the different tests. Half the children were examined by the ophthalmologists before the battery of tests was given; the other half received the screening tests first and the clinical examination later. For first-grade children there were 24 possible sequences of tests and testers; for sixth-grade children the greater number of tests increased the possible combinations.

What will the study show?

By comparing the results of the vision-screening procedures with the judgment of the ophthalmologist as to whether or not the child's eyes need observation or treatment, we hope to determine, as described earlier in this paper, which procedures fulfill the first requirement of a good screening test, that of selecting the largest proportion of the children who need be referred for care and the smallest proportion of those who do not need to be referred. By comparing the results of the tests administered by the different testers, we should learn something about who can do the testing successfully.

The data collected in this study of vision-testing procedure will probably be suitable for various types of analysis. These analyses may give valuable additional information regarding the eyes of children and about vision-testing techniques. But the primary purpose of the study is to evaluate the different procedures in terms of their usefulness for programs for the health of children of school age.

Individual children served

The program conducted in St. Louis was a service program for the children whose eyes were tested, as well as a scientific investigation. If the clinical examination showed that the child's eyes required observation or treatment, this information was given to the school nurse.

The Division of Health and Hygiene in the St. Louis public schools welcomed the opportunity to act on this information through its program for referral and follow-up of children in need of medical care. The division has available certain funds provided by private organizations for the purchase of glasses for children who need but cannot afford them. The nurses have interviewed the parents of children who needed treatment, and their reports show that they have been successful in getting the children placed under the care of eye specialists.

The study was not set up as a demonstration program. A plan that calls for 11 tests and a complete ophthalmological examination for each child would not be practicable for general use. But from the analysis of the data obtained we hope to get information that will be helpful in planning vision-screening programs.

Thanks due St. Louis public schools

A tribute is due to the St. Louis public schools for their cooperation in this study. The staff of the administrative and health divisions contributed to the planning and arranged for the teachers and other school people to take part. School principals, teachers, and nurses gave generously of their time. Their explanation of the project to children and their parents resulted in excellent cooperation from both.

If the study in St. Louis produces the information we need in order to plan better vision-testing programs, the children of the whole country will benefit from this work in a single city.

SO THAT CHILDREN MAY HEAR BETTER

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A HEALTH PROGRAM for children of school age should do everything possible to detect hearing impairments as early as possible, and any child with a hearing defect should be seen promptly by an ear specialist. It is not always possible to restore perfect hearing, but often the progress of the condition may be stopped by prompt medical attention. Impairment of hearing is frequently accompanied by emotional and educational difficulties that are the natural consequence when a boy or girl does not hear well.

Fortunately, it is now possible to attack problems of hearing impairment with reasonable assurance of success. We now have adequate techniques for detecting impairment, new methods for diagnostic testing, the benefits of recent advancements in medical therapy, and fresh insight into the development of compensatory language skills.

Although our use of language is conditioned by a variety of factors, our hearing mechanism is the natural channel through which we learn to talk. We talk because we hear and as we hear. When a child's hearing is profoundly impaired, he can learn to talk only after long and painstaking special education. Short of profound hearing impairment, however, there are many lesser degrees of hearing disability that interfere with the development of normal speech habits and that usually prevent the child from developing and behaving normally.

The damaged hearing mechanism is only part of the picture; in terms of language development and social maturity, the basic difficulty is that the child is unable to exchange ideas with others or to take his full part in the activities of the classroom, the playground, and the home. That is why, if a child's ears are put in as good repair as medical science can achieve and he still has a hearing disability, we must center our attention on the psychological, social, and educational aspects of helping him to communicate with others. Not just his ears, but the child as a whole, is the focus of our attention. In a health program in school, this means that a number of professional services are needed in order to recognize and meet each child's individual needs.

Several facts relating to hearing impairment warrant careful consideration by everybody concerned with the health and welfare of school children. Some of these facts are:

1. We have good evidence that about 5 percent of the school children in the United States have impaired hearing.

2. Few school children have their hearing tested regularly (a recent national survey puts the figure at 11 percent).

3. Many children's hearing impairments can be cured or minimized by early diagnosis and treatment.

Principles that underlie the school's hearing program are:

1. Good hearing in as many of the children as possible is the fundamental objective.

2. When we find that it is impossible to remedy a child's hearing impairment, we must emphasize prevention of the undesirable habits, attitudes, and behavior that often accompany such impairment.

3. A school hearing program does not focus merely on a child's hearing, but on the child as a whole.

4. If a permanent hearing impairment still exists after the child's ears have been treated, the problem centers about increasing the child's ability to communicate with others.

5. The foundation of a good program is finding and diagnosing the child with impaired hearing. Special education should be started only after the impairment is reduced to a minimum and the nature of the remaining impairment is carefully evaluated by a specialist.

These facts and principles point up the need for a cooperative program wherein both health and educational services are available for the needs of the children.

Audiometry is the most accurate means for measuring hearing. It includes tests that measure the hearing of pure tones and of speech.

In pure-tone tests, a series of tones (usually 9 or 10, across a range of 6 to 7 octaves) are sounded in order to determine the child's threshold of hearing (the point of least loudness at which he consistently hears each tone). This point for each tone is recorded for each ear, and the result is graphed as an audiogram, such as those on pages 20–21. The shape of this pattern gives much useful diagnostic information.

When we test a child's ability to hear speech, we find that we can get much additional information that is essential in diagnosis. Moreover, because speech-hearing tests reflect the level at which the child lives with his impairment, this information is even more important in analyzing the nature and extent of the communicative disorder and in deciding what training is best for the child's welfare.

How well does he use his hearing?

There are two significant aspects of speech-hearing testing: (1) The measurement of threshold, by definition the loudness level at which the child distinguishes 50 percent of what is said to him; (2) the measurement of his ability to discriminate fine differences among speech sounds under conditions of ideal loudness. Both of these tests can be done fairly well with the use of the microphonic circuit that is included in many commercial audiometers; for precise results, special equipment should be used in a soundproofed room.

Pure-tone audiometry tells us what the child *cannot* hear—that is, he cannot hear the test tones at a loudness level that is lower than his threshold. But speech-hearing audiometry tells us how well he uses his hearing in active communication. This knowledge is essential if we are to recognize the child's language shortcomings and to know what we can do to help him to overcome them.

The findings of pure-tone tests and of speech-hearing tests given to an 8-year-old boy with normal hearing, Bill, are recorded in the first audiogram on page 20 (fig. 1).

Hearing impairments, as we stated before, take several forms, and each has several degrees of severity. When the middle ear is damaged, conduction of sound may be blocked, and thus conversation and noise are reduced in loudness before they reach the inner ear. When the inner ear—the perceptive mechanism—is damaged, sounds are not only diminished but distorted.

Ordinary speech sounds have a tonal range from approximately middle C to the C that is four octaves above; if a child is to hear speech well he must be able to hear sounds over this range. If the child's hearing nerve is impaired he may hear the lower tones fairly well without being able to distinguish clearly sounds of ordinary speech in the middle and upper tones. He hears distorted sounds, and the result is conversational confusion. The problem then is not merely hearing versus deafness. It is necessary to find out accurately how much difficulty the child's loss of hearing is causing him in communicating with other people.

Thorough audiometric screening will reveal many youngsters with mild to moderate hearing loss that is related to acute or chronic upper-respiratory conditions. These infections can usually be treated successfully, and the child's hearing is usually improved considerably, or even restored to normal.

Figure 2a illustrates such a case, in 6-year-old Bobby. The upper audiogram shows he had a moderate hearing loss of conductive type (38 decibels), caused by upper-respiratory infection, but no trouble in understanding speech if it was loud enough. Bobby had, however, some difficulty with ordinary quiet conversation and considerable difficulty in the classroom. The second audiogram (fig. 2b), made about 9 months later, after Bobby was treated for the respiratory infection, shows how much the child's hearing had improved. His speech-hearing threshold had risen to 8 decibels, a level that is not significantly below normal.

It is often impossible, however, to improve a child's hearing in such cases unless his impairment is diagnosed and treated early. Therefore, early discovery and treatment of such children should constitute a major part of audiology in schools. These children need not only prompt medical attention, but also careful supervision by both teacher and parents while the medical treatment is being carried out. The teacher may need to change the child's classroom seat so as to enable him to work to the best advantage. She should take care that he follows group discussions and should keep a watchful eye on his progress. Giving the child some training in speech reading (a more accurate term than lip reading) is often advisable as a precautionary measure.

Once it has been established that a child has a permanent hearing loss, we have good reason to think about the type and degree of his disability, about its effect on the child's behavior in general, and on his ability to communicate with others. His needs will vary greatly according to whether the loss is marginal, moderate, severe, or pro-

found, and according to whether the impairment appeared before or after his language pattern developed.

Many children have a slight to moderate impairment, with more than one cause. Injury to the mechanism that conducts sounds frequently responds to treatment, but injury to the perceptive element cannot be remedied. In either case, the educational procedures to be followed should be governed by the findings of the otologist and the audiologist. If the child's permanent loss of hearing does not exceed 35 decibels, it may suffice to teach him speech reading and to seat him in his classes so that he can hear as well as possible.

A typical example of this kind of problem is shown in figure 3, which is an audiogram of a boy of 7, James. He was brought to an audiologic center by his parents because an alert second-grade teacher had noted an apparent difficulty in hearing in the classroom and had advised a check. The parents had been completely unaware of any difficulty. This is not unusual when a child has only a mild loss of hearing. The boy's speech hearing is at a 28-decibel level, which may improve to some extent as the conductive element responds to treatment.

If the loss exceeds 35 decibels, the child should, in addition, be given a carefully selected hearing aid and should be trained in its use. Speech correction or speech training may be needed for certain children whose hearing loss is sufficient to interfere with their developing or retaining certain speech sounds.

Chronic upper-respiratory infection and earache can exact an unbelievable toll of damage to the hearing mechanism and hence to the psychosocial adjustment of the child, but persistent treatment to keep the upper-respiratory mechanism in good condition can do away with, or at least reduce, much impairment.

Figure 4 offers dramatic evidence of this in a boy of 11, Frank. The lower audiogram shows a severe impairment, which kept the child from hearing normal conversation. At the time this audiogram was made, he had sinusitis and had had a cold for a month. His hearing loss had increased progressively over a period of years until he had so much difficulty in getting along in the classroom that he was sent to a special school for children with impaired hearing. An otologist was consulted at this time, and a course of treatment begun. The upper audiogram in figure 4 was made 17 months later, when the boy was relatively free from symptoms and had essentially normal hearing. He was able to go back to his regular classroom.

By no means can all such impairments be treated so successfully. All too often chronic infection damages the hearing mechanism permanently. Most cases, however, respond to early treatment, and this emphasizes the importance of adequate diagnosis and medical care before any nonmedical procedures are begun.

Impairment of the perceptive element in hearing, which is caused by damage to the nerve cells, requires more special handling than does impairment of the conductive element, for this type of impairment results not only in reduced acuity for sound but also in reduced ability to make the necessary discrimination for speech. We must explore the child's ability to hear speech before we plan to rehabilitate him. A hearing aid may or may not be helpful. If one is used, it must be carefully selected so that it will help the child to discriminate among speech sounds. And we must train him in using his hearing aid.

The following three cases suggest the variety of problems related to a perceptive-type hearing loss.

Figure 5 is an audiogram of a boy, Hughie, with a perceptive-type loss. At the age of 8 he shows great reduction in his ability to hear high-frequency tones. His family was unaware of his hearing loss until they began to realize that his speech was unusual and that his vocabulary was slow in developing. This child is not deaf in any sense of the word, yet he cannot hear normal language well enough to reproduce it accurately; he hears but does not understand. His speech-hearing threshold for certain two-syllable words (spondaic words),

We are here presenting audiograms, showing the results of hearing tests for seven children (figs. 2a and 2b are for the same child).

On each audiogram a child's thresholds for pure tones are shown, for each ear.

His ability to hear speech is shown by a pair of short horizontal lines extending across the range of tones covered by ordinary talking. The figure written at the right of this pair of lines shows, in decibels, how far below normal is the child's threshold for hearing speech.

Bill's audiogram (fig. 1) shows normal hearing.

Sometimes a child's hearing impairment can be remedied through treatment. His audiogram after treatment then gives evidence of improvement. Figure 2b, Bobby's second audiogram, taken 9 months after his first examination, is an example of this; another is Frank's upper audiogram (fig. 4).

James' hearing loss, as shown in figure 3, is typical of one kind of perception impairment for which there is no medical treatment.

Hughie (fig. 5) hears speech in a distorted way; some sounds he hears normally; others not at all. A hearing aid would only complicate the distortion. On the other hand, a hearing aid is helping Nettie (fig. 6) and Charles (fig. 7). For both these children, two thresholds show how much better they get along with the aid than without it.

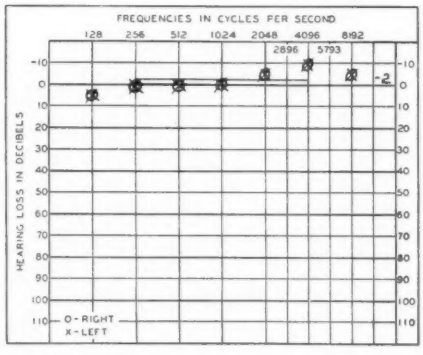

Figure 1. Bill

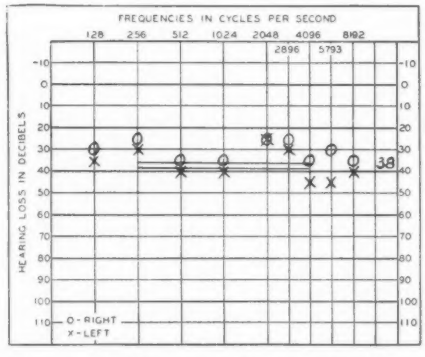

Figure 2a. Bobby at his first examination

which are selected to test low-tone response, is 8 decibels, not much below the normal range; yet his ability to recognize fine differences among consonant sounds is 30 percent below normal. A hearing aid will not help him. Speech reading will be useful to him in many situations, and he will profit to some extent from speech training.

To build a bridge for communication

The age of the child at the onset of a perceptive-type impairment, as well as the severity of his hearing loss, will greatly color the diagnostic picture as far as language facility is concerned. The language facility, in turn, will determine the basic educational procedures needed. The child whose language patterns were established before the hearing loss was incurred presents a far different problem from that of the child who has never heard well enough to develop language skills through the usual imitative channels. Where the one child has a ready communicative bridge between him and his world, no matter how severe his impairment, the other needs special education in order that some kind of bridge be built. This requires long, persistent training, at best. Intensive special work is required until the child has gained some language facility. If this training is begun at the nursery and preschool level, many of these children can be expected to do well later in regular school with the help of special tutoring. The timing will vary for each child, depending on his ability and on the educational advantages that are available.

A severe, congenital, perceptive-type hearing loss is illustrated in figure 6, the audiogram of a junior-high-school girl, Nettie. Her parents became aware of the problem when the child was slow in learning to talk. She was given a great deal of careful attention at home and in nursery school, and good language habits were established through intensive work in speech reading and early fitting with a hearing aid, coupled with work in auditory discrimination and speech training. Despite the severity of her impairment, this child has been educated in regular school, with special tutoring, and is now a good student. She is alert and well-adjusted in every way.

Figure 7 illustrates the case of Charles, 9 years old, who had an extreme, profound, congenital, perceptive-type impairment. (He is now making good progress in a special school.) The better of the two hearing thresholds represents his achievement with a hearing aid. With it he can understand vowels without speech reading; his voice is better modulated; he is aware of acoustic changes in his environment that he would otherwise lack. He will never be able to understand conversation without the hearing aid, but with a combination of visual and oral cues he can communicate quite readily. His speech is marked by distortion of the consonant sounds that he cannot hear, but it is fluent and understandable and is a useful social tool.

Although screening and much of the

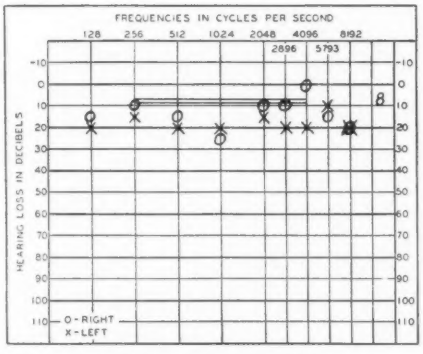

Figure 2b. Bobby, 9 months later

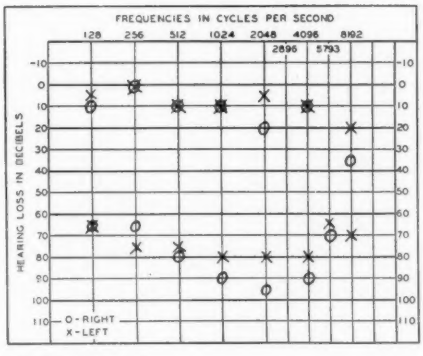

Figure 4. Frank

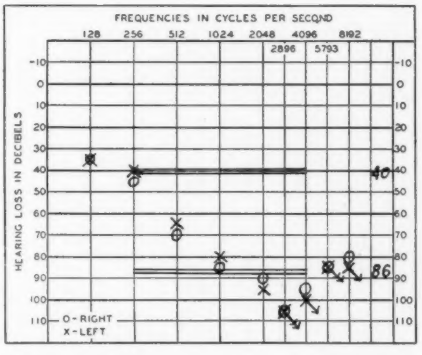

Figure 6. Nettie

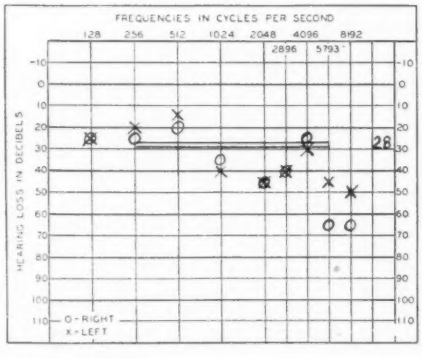

Figure 3. James

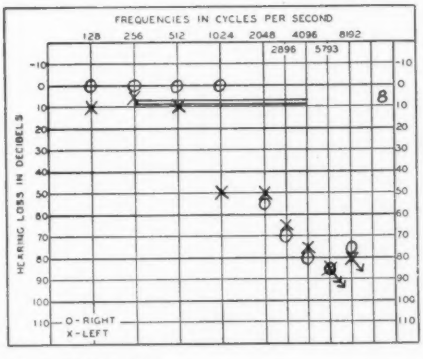

Figure 5. Hughie

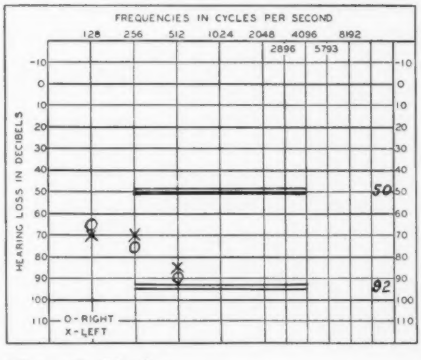

Figure 7. Charles

diagnostic testing is carried out by nonmedical specialists in audiology, diagnosis is a medical responsibility. Moreover, because the welfare of the child as a whole is concerned—not only his impaired hearing but also his general health and behavior—clinical study should be made an integral part of pediatric service in school. Regardless of the details of medical management, whether the child is under the care of a private physician or is treated in a public health service, case finding and diagnosis are best carried out as part of a unified undertaking within the framework of the health program in the school and utilizing its facilities and personnel.

Within this framework, a practical program in audiology works as follows:

1. Case finding is centered in the schools through a regular routine of screening tests administered by adequately trained professional personnel and through teacher observation.

2. Children selected by screening techniques are retested immediately by pure-tone audiometry to determine their thresholds of hearing.

3. Children who show a significant degree of impaired hearing (in the majority of cases the impairment is mild and usually treatable) are referred to an audiologic clinic. These children receive the full battery of clinical audiologic tests, including speech tests and otologic examination.

4. The pediatric clinician is responsible for the health of the children and refers them to other agencies for whatever special diagnostic examinations they need—dental, mental hygiene, and the like.

5. Ideally, each case is "staffed" by the entire examining group, and recommendations for complete case handling are made. The school nurse follows up these recommendations with the parents and teachers concerned.

6. The necessary clinical services, medical or nonmedical, may be undertaken privately or through public health services, whichever is feasible.

With some types of hearing loss, we can help a child by fitting him with a hearing aid.

Long-term training and retraining (for instance, speech training and speech reading) are carried out in the school system. Consultative service through State and local departments of education is increasingly available to help in such programs.

7. Individual referrals are made by teachers on the basis of observation. The supporting diagnostic services are available at all times for referral of individual cases by the school pediatrician.

8. Referral is made for vocational guidance when necessary.

Planning for the child's welfare

A program of this sort is not an ideal in the sense that it is unachievable. On the contrary, such a planned cooperative scheme is being carried out or is in development in a number of communities. Although ostensibly expensive to establish, it proves less costly and more efficient than any haphazard service of incomplete diagnosis and inadequate follow-up, wherein a variety of specialists may work with a child without unity and often without coherence so far as the welfare of the child as a whole is concerned. For the sake of the child, as well as for behavioral, economic, and administrative reasons, every effort should be made to help the school child by means of supplementary training in the regular classroom, if the necessary compensation can be made in this way, rather than placing him in a special school that may tend to make him seem different from other children. Sometimes, however, the best interests of the child are served by placing him in a special class equipped to give him the help he needs.

The child with impaired hearing is not necessarily otherwise abnormal and must not be treated as though he were. Even the child with a severe loss in his ability to hear speech can learn to keep pace in school if his needs are known and met early enough.

Since many hearing impairments can be cured, and since permanent impairments involve the communicative habits, the development, the general behavior, and the social maturity of the child, his parents should team up with a number of professional workers to maintain his health and welfare. This team should include (besides the parents) the teacher, nurse, pediatrician, otologist, audiologist, psychologist, vocational-guidance counselor, speech correctionists, and whoever else is useful.

This is much more than an effort to conserve hearing; it is a joining for that purpose of school and health authorities, of parent-teacher groups, and of everyone else who is in contact with our children of school age.

ENCOURAGING GOOD FOOD HABITS IN SCHOOL-AGE CHILDREN

E. NEIGE TODHUNTER, Head, Department of Foods and Nutrition, University of Alabama

ALL who work with children have their dreams of the future. The nutritionist dreams of alert, vigorous children who joyfully eat enough of all the foods they need; children who, when they eat in a cafeteria, naturally choose milk, fruits, and vegetables, along with some meat and eggs; and families where never is heard a disturbing word at meals, such as "I don't like it" or "I don't want any."

That day has not yet come, but the goal is not an impossible one. It is a goal that we know is worth while and is possible of achievement. The importance of food as a major factor in determining growth and vigor and physical, mental, and social well-being has now been well-established through clinical and laboratory evidence. Our knowledge is on a sound foundation.

Nutrition is a comparatively new science. The ways in which foods differ in their nutritive value are now generally understood; but such knowledge has not yet reached all parents or all professional workers for children. Too often the influence of nutrition is overlooked because the ill effects of poor eating habits, begun in early childhood, may not become apparent for a number of years.

Human beings do not long retain any instinct concerning the foods that are essential for their normal growth and development. The well-known "self-selection" experiments of Dr. Clara Davis in 1929 do not contradict this statement. Dr. Davis found that when young children were offered a wide variety of natural foods, such as fresh fruits and vegetables, eggs, meats, milk, whole-grain cereals, and butter, they selected meals that met their needs for normal growth and development. Unfortunately, these favorable conditions for self-selection of food are not often encountered by children. Adult rules and prohibitions, access to sweet foods, and the influence of radio and colorful advertising soon begin to establish a pattern of likes and dislikes for the young child.

Research finds poor dietary habits

The Research Laboratory of Human Nutrition of the University of Alabama is engaged in study of the nutrition of children in three schools. The research workers have found such conditions as poor dietary habits, with low intake of milk, fruits, and green vegetables; frequent omission of breakfast and supper; and eating between meals, particularly candy and soft drinks. In one-fifth of the children these findings about food habits were accompanied by a physician's rating of physical signs of poor nutrition. And the dentist who examined the children's teeth found that two-thirds of the children needed dental attention. These findings are in agreement with those of investigators in other parts of the country.

We now know that the mother's diet during pregnancy is a major factor in determining the health of the child at birth. Studies at Harvard School of Public Health have presented convincing evidence of this.

The next step forward is to act on the principle: "Every child has a right to know what he should eat." In the schools we have an opportunity to provide children with the information and the experiences through which every child may acquire good eating habits. Habits are acquired more easily at an early age, and therefore such training should begin in the lower grades. The following nutritional goals are proposed here as desirable for all who work with children; they are goals that may more readily be attained through the school-lunch program.

1. To develop in children a liking for

a wide variety of foods so that they will enjoy eating the foods that are essential for their growth and development.

2. To help them learn regular habits of eating, sleep, rest, fresh air, and exercise.

3. To develop in them an understanding that the kinds of food that they eat do influence growth and health.

4. To teach them to recognize that sweets and desserts add zest to a meal but that they should be used in moderation and only after all their other food needs are met.

5. To influence them so as to make the preparing and eating of food a joyous occasion as well as a means of attaining health.

6. To help them to separate food habits from moral values and rewards, and to get rid of the idea that certain foods are "good for you," or that a child is "good" because he eats some particular food and "bad" if he refuses it.

7. To teach children to *practice* good nutrition rather than just to know many facts about foods.

8. To gain the interest and cooperation of parents so that their children may carry nutrition knowledge and desirable food habits back into the home.

What is a good noon meal?

Many children have been found to start the day without breakfast, or with a breakfast that is inadequate in kind and amount of food. In order that children may carry on throughout the day and avoid fatigue and listlessness, and quarrelsomeness and disturbances, it is imperative that they get a good noon meal.

For every child, lunch should provide a meal that is nutritionally adequate; that is to say, it should supply at least one-third, and preferably more, of the child's nutritive requirements for the day. A basic pattern for such a meal is:

One-half pint of milk to drink;

Two ounces of meat, fish, poultry, or cheese, or an egg, or 4 level tablespoonfuls of peanut butter, or one-half cup cooked dried peas or beans;

Three-fourths of a cup of vegetable or fruit, or a combination of these;

One or more servings of bread, muffins, biscuits, or other breadstuff;

Two teaspoonfuls of butter or of margarine fortified with vitamin A.

Such a meal pattern provides for nutritional adequacy. It also allows for wide variety in choice of food and method of preparation, as well as being adapted to regional differences in food habits. The meal selected from these foods can be prepared as a hot meal for cold winter days, or as an attractive cold plate for warmer weather, or as a packed lunch to carry to school or to work. It is a pattern that can be used at upper-income levels and also where there is comparatively little money to spend for food. This is a food plan that is basically sound for all children, whether at home, at school, or in an institution.

School lunch contributes to health

With the realization of the need for better feeding of children, the Research Laboratory of Human Nutrition at our university has for the past 11 years devoted a considerable part of its time and resources to a school-lunch program. This program was chosen as the avenue for nutrition work for several reasons:

(*a*) The school-lunch program provides the opportunity for direct work with large numbers of children;

(*b*) Children, particularly in the lower grades, have established fewer undesirable food habits that need to be changed than adults have, and they are receptive to new ideas;

(*c*) A child carries home many of the ideas and practices that he has learned at school, and thus we have an opportunity through this program to influence, at least indirectly, the whole family;

(*d*) A child needs to know the reasons why he should eat certain foods so that he can take responsibility for his own health; the school lunch gives opportunity to integrate nutrition teaching, not only as part of the health program, but also as part of the total educational program for the development of the whole child;

(*e*) The school lunch gives opportunity for many individuals and agencies to work together for the welfare of children; in fact, it is essential that they work together if success is to be achieved.

The school-lunch program has spread throughout the country because of the recognition of the part that nutrition plays in the welfare of children. This program is designed not just as a means of feeding hungry children or of using up agricultural abundances. It is planned to be an integral part of the total school program and to make it possible for every child to have an adequate lunch served at school.

Federal aid through the National School Lunch Act has made it possible for many schools to start such programs when otherwise they would have been financially unable to do so. But whether a school receives Federal aid or not, the fundamental principles for operation of a school-lunch program remain the same.

The school-lunch program is built on the basic noon-meal pattern described previously. The main concern of the school-lunch program is not whether a hot lunch is served but

(*Continued on page 38*)

Lunch should supply a third or even more of the nutritive requirements for the child's day.

A PEDIATRIC CLINIC SERVES CHILDREN OF SCHOOL AGE

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WHEN I joined the West Virginia State Department of Health early in 1947 as pediatric consultant, it was with the understanding that I should devote most of my time to the consideration of the health of school-age children. I was delighted with the prospect, first, because for some time it had seemed to me, through observations made in my private practice, that health problems of school-age children are frequently overlooked or underestimated by parents (and sometimes by physicians as well); and secondly, because in most places school health services are unquestionably inadequate. It was the latter situation that I hoped to study in an effort to bring about improvement. It is probable that if this second condition could be righted, the first one might be corrected through gradual education of the children's parents.

We choose a county

Health services in schools throughout our State are rather poor. There is no coordinated program on a State-wide basis. In 14 counties a total of 37 nurses are employed full time by county boards of education to work in schools. In 36 counties the board of education pays the salaries of public-health nurses who do nursing in schools as part of a generalized program, or contributes to their salaries. Only 1 county, Kanawha, has a full-time school physician. In most of the other counties the job of supervising programs for the health of school children falls to the lot of the county health officer, if there is one. In our efforts to improve health services for children of school age we felt that it would be desirable to work with a unit whose services already were nearly complete. In line with this idea, we selected Kanawha County because it had a full-time school physician and 14 full-time school nurses.

During conferences we had with the physician for the Kanawha County schools, we conceived the idea of establishing a school diagnostic and treatment clinic. The necessity for such a clinic was pointed out by this doctor, who said that the greatest problem was how to get follow-up care for children in the schools. The children's health problems were screened by means of teacher-nurse conferences in the schools, and immunization procedures were properly carried out, along with other measures to control communicable disease. However, beyond obtaining certain types of services for the correction of remedial defects—eyeglasses, hearing aids, orthopedic care—through voluntary organizations and State crippled children's services, the school physician and nurse were helpless; they could do no more than point out abnormalities to parents and recommend medical attention. Needless to say, many parents or guardians, either because of financial limitations or because they did not recognize the child's true needs, had never acted on these recommendations.

Clinic space, time, and staff

Having arrived at the idea for the clinic, we were confronted with finding a place for it. None of the schools had space or facilities for establishing such a clinic. Besides, we wanted the clinic to be as centrally located as possible so as to make attending it equally convenient for all. By conferring with the director of the Kanawha-Charleston Health Department, we found that suitable space and facilities were available at the health department. In fact, we could use rooms that had just recently been attractively decorated for the use of another clinic. Because the other clinic met only 1 day a month, it was easy to arrange a different time for ours.

We decided to hold our clinic twice a month—on the first and third Wednesdays, from 12:30 to 3:30 p. m. We chose arbitrarily to see only six patients at each clinic session in order to have enough time for physical examinations, for laboratory work, and for consultation with both the social worker and the nutritionist that we were planning to have there. The 2-week interval between clinic sessions would allow adequate time for the clinician to obtain the laboratory reports necessary to aid him in making a diagnosis. And 2 weeks is not too long to allow between visits.

For the first 15 months six pediatricians took part in the clinic. These doctors are all qualified practicing pediatricians, who had expressed a desire to work with a clinic of this type. For the first 15 months they rotated their services in the clinic, each one serving for a month at a time, at two consecutive clinic sessions. Since July 1, 1950, the full-time pediatric consultant on the staff of the maternal and child-health division of the State department of health has been the clinician.

Patients are referred to the pediatric clinic by the health service in a school, by private physicians, by social-welfare agencies, by county public-health nurses, and by well-child conferences. Any child who is referred to the clinic is accepted for an initial visit. He is given an examination that includes a complete series of laboratory tests as well as consultation with the nutritionist and, when necessary, the medical social worker. If a diagnosis cannot be made with certainty at the time of

the first visit, the child is asked to return for a second. After that, if we think that the family can afford the services of a private physician, we may ask the parents to take their child back to him. If they do not have a family physician, we may give them a list from which they may choose.

In most instances we refer the child to other clinics of the health department for special services or diagnostic work, but he returns at intervals to the pediatric clinic for general health supervision. Whenever necessary, home visits for follow-up care and instruction are made by the public-health nurses. When there are social or emotional difficulties that affect the health of the child, the medical social worker carries responsibility for helping the family to deal with such problems. Some services that are required are not obtainable from a private practitioner: for example, the advice and guidance our nutritionist gives in the clinic. When malnutrition caused by poor dietary habits seems to be the chief problem, the patient is asked to continue at the clinic for follow-up visits with the nutritionist, regardless of his family's financial status. Another service that is obtainable locally only through a public-health agency is electroencephalographic readings, which are done in the mental-hygiene clinic of the health department. However, a charge is made for these readings if the patient is able to pay.

Other agencies work with us

In order to obtain complete diagnostic and therapeutic services, we work in close cooperation with other clinics or agencies; for example, (1) an orthopedic clinic, which is part of the State crippled children's program; (2) a cerebral-palsy clinic, which is run by the State society for crippled children and the local health department; and (3) the cardiac clinic of the local health department. We also work closely with specialists in private practice. Tonsillectomies are done by a qualified otorhinolaryngologist at the Salvation Army Hospital. Children who have diabetes are referred to the diabetic out-patient clinic at the Charleston General Hospital; behavior problems are referred to the mental-hygiene clinic. In addition, allergy tests, when needed, are made by one of the city's leading internists in his own office, and X-ray therapy is given by a roentgenologist in his laboratory. These services may be paid for from State maternal and child health funds. A list of the clinics, agencies, and individual practitioners to whom children may be referred is posted in the clinic for the convenience of the clinician.

Routine medications such as iron or vitamins are dispensed from the city-county pharmacy in the same building as the clinic; and those of an unusual nature may be obtained from one of the local pharmacies at the expense of the clinic, with a prescription issued by the clinic. A list of all the drugs carried in the city-county pharmacy is posted in the clinic's examining room.

Examination is comprehensive

Routine laboratory procedures are carried out for each patient who comes to the clinic and include complete blood count, urinalysis, sedimentation rate, tuberculin test, Mazzini test for syphilis, and stool examinations for parasites. If tuberculin tests are positive they are followed up by chest X-rays. If sedimentation rates are high and there are other possible indications of rheumatic fever, electrocardiograms are made. If a child's test for syphilis is positive, he is referred to the Kanawha Medical Center for treatment.

Special laboratory tests—such as basal-metabolism tests and blood chemistry and special X-rays—are obtainable at the Charleston General Hospital and may be paid for from State maternal and child-health funds.

When patients require hospitalization and, therefore, daily observation and supervision, one of the two pediatric consultants connected with the State department of health assumes responsibility for this hospital care.

As might be expected, our chief difficulties have been with minor details. Our fee schedule is in accordance with all those in public-health programs throughout the State. That fact makes it acceptable to all hospitals and institutions, and therefore fees present no problem. At first there was a great deal of confusion in coordinating our services with those of other clinics, and of the out-patient departments of hospitals, and of private specialists. But through conferences this has at last been ironed out to everyone's satisfaction.

We have not yet solved the problem of a satisfactory record form to use in the clinic. We started with a form that was adapted from one in use in the Kansas schools. This proved to be too small, and we abandoned it in favor of one already in use in the rheumatic-fever program of our State health department. However, we find that this is too cumbersome, and we are now planning to return to a modification of the first form used.

Another of our difficulties is the inadequacy of our dental services. To date, we have no dental services available except those offered by a clinic set up in one of the Charleston schools. This clinic is open only to residents of the city—not the county. Plans are under way, however, for obtaining the services of a dental hygienist from the State health department and expanding the clinic facilities so that patients outside the city limits may be cared for.

The clinic has now been in operation for a year, and during that time we have seen 110 patients, with a wide range of diagnoses.

Our diagnosis brings hope

One of the more interesting cases was that of a 14-year-old girl who had been excluded from school because her vision was too poor for her to do school work. This child had a draining sinus just below the inner corner of her right eye. She had been hospitalized twice; glasses had been recommended and an eye operation proposed. However, our clinic discovered that she had congenital syphilis, and this diagnosis showed that neither of these measures would be helpful. But it was hoped that prompt institution of antisyphilitic therapy would restore at least part of her vision and clear up the lesion below the eye.

Another case was that of a 12-year-old girl whose history revealed she had been taking a tremendous dose of phenobarbital daily. She was buying the drug from a mail-order drug company in Chicago. These large doses made the child behave strangely at school; for this reason she had been referred to us. With the proper therapy, including psychological guidance under the supervision of the mental-hygiene clinic, this girl has shown remarkable

improvement. The matter of the mail-order sales to her was promptly reported to the Food and Drug Administration of the Federal Security Agency for investigation.

The majority of our cases continue to be recurrent upper-respiratory infections, malnutrition (including feeding problems and poor eating habits), and behavior problems, in that order. It is interesting to note that approximately 50 percent of the children seen in the clinic have secondary anemia, of varying degrees of severity.

Since the beginning of the program seven patients have been hospitalized for reasons other than tonsillectomy. Three of these were for surgery.

Nutritionist advises the mothers

A nutritionist took the dietary histories of 55 of the children who have attended the clinic. A few mothers were not able to give all the information about their children's food intake that the nutritionist asked for, but for the most part what the mothers gave seemed to the clinic staff to be fairly accurate.

These histories brought out a number of facts about the eating habits of the children. Of the 55 children whose diets were recorded, 33 were found to have a poor diet and 19 a fair one, and only 3 were considered to have a good diet. Of the 3 who had good diets, 1 was a child with diabetes who was under the care of a doctor; a dietitian was helping the mother plan the child's meals.

In noting the use of certain foods, the nutritionist found that the diets of 43 children were very deficient in green and yellow vegetables; only 4 seemed good in that respect, and the remainder fair. Milk and meat ranked about the same in the diets, with 5 good, 28 poor, and the remainder fair. The intake of citrus fruit or tomatoes was found to score 44 poor and 5 good, and the remainder fair.

Half the parents reported that their children were eating too much between meals, thus spoiling their appetite for meals.

The condition of several of the patients was diagnosed by the examining physician as definitely caused by malnutrition.

In one outstanding case, a remarkable improvement in eating habits was shown and, consequently, an improvement in the physical condition of the child. When this little girl came to the clinic, she was pale and thin, her posture was poor, her arms and legs were emaciated. She had a thin, pinched face with a very unhappy expression. She showed definite signs of anemia. Her mother reported that the child had a very poor appetite. She had a habit of eating sweets between meals and very little food at mealtime.

When this child started to eat more of the essential foods, she began to gain in weight, to look much better, and to feel better; she had a much more pleasant expression on her face and seemed like an altogether different child. She gained 8 pounds in 6 months.

Another interesting case is that of an 11-year-old boy who was overweight. He ate large quantities of high-calorie foods and neglected to eat some of the highly nutritive foods that are low in calories. The pediatrician in charge of the clinic ordered a low-calorie diet for the boy. The nutritionist talked with the boy and his mother together and tried to show the boy that changing his food habits would make for better health and a happier boy, and, at the same time, would reduce his weight. He showed much interest in what was said to him and said that he and his mother would cooperate on the project.

This boy's second visit to the clinic took place a month after the first. The boy and his mother reported that he had been following his diet very closely. He was learning to curb his appetite for high-calorie foods, and he had lost 4 pounds.

Again, we had a boy whose mother had to work outside the home to earn the family living. His mother did not take much time to plan meals for the children, but allowed them to eat about what they wished. Naturally, they neglected some of the important foods. The nutritionist tried to explain to the mother the importance of planning adequate meals that include a variety of foods. She stressed the importance of helping the children to learn to eat a number of different foods. At a later visit to the clinic, the mother said that she is now giving more time and thought to the food needs of the children. Green vegetables, eggs, more milk, and some other foods that had been greatly neglected are now included in the meals. The boy who was referred to the clinic is now learning to eat a greater variety of foods.

Medical social worker adds her skill

Our medical social worker has seen about half of the children attending the clinic.

Many of the children come from large families whose inadequate and uncertain income and crowded living quarters add tension to family relationships and place a heavy burden on the more insecure or emotionally immature parent. Settings such as this provide poor background for good physical and emotional health, and in her interviews the medical social worker learned that a large proportion of the children had a history of nervous tension and poor school achievement. Often other members of the family, too, showed need for help with physical and emotional problems that could be met either through our clinic or some other of the various community agencies.

As the child's whole health problem is so closely related to the setting from which he comes, and as his care in turn will affect his family, the medical social worker helps both the child and his parents. Therefore she needs to know what all the members of the family are like, what feelings they have toward one another, and what attitude the parents and the child himself have toward his medical care. If the parents are in conflict, and their own feelings are mixed up, case-work service may be of help to them in fulfilling more adequately the physical and emotional needs of the child. As a byproduct, the service may result in better adjustment and better health for the whole family.

Girl helped to lead more normal life

One patient, Eleanor, was sent to us at the age of 15 because she had epileptic seizures. Her behavior at school was bizarre. Her middle-aged parents had reared a large family and were now rather at a loss to know how to help this child in solving her individual problems. The electroencephalogram showed that she had true epilepsy. Her intelligence was rated as low normal.

Under a doctor's care, Eleanor's medication was regulated so that her seizures were controlled. She also became alert. Her condition was explained to the school officials so that they would be understanding of the problem. Previously she had been scolded, because the teachers thought Eleanor had the fits on purpose.

Now she works an hour a day in the school office. Her school work has improved and her grades are good. Much help has been given the parents by the medical social worker in understanding Eleanor's need for more freedom and in preparing her for the time when she must stand alone. Eleanor's father thinks watching school games is sinful, but he is willing to have her bring friends home. She now spends week ends with her older brothers and sisters, where she has more social outlets, such as an occasional movie, picnic, or party.

From a rather sullen, lethargic girl, Eleanor is developing into a pretty, sociable young woman. Her parents are very proud of the change in her.

Johnny and his parents are helped

The medical social worker found that Johnny was a malnourished child of 9, with a history of continual colds. His paternal grandmother and aunts monopolized him, putting his mother into a sort of second place with him. His father after serving in the Army found jobs hard to hold because he wanted to start at the top. Although the boy's mother had a good education, she seemed to be without the slightest initiative and looked drab and unattractive. A tonsillectomy improved Johnny's health, and the nutritionist gave his mother help with meal planning and food budgeting. The mother came frequently for interviews with the medical social worker between Johnny's clinic appointments.

The mother's personal appearance has now improved; she wears makeup and freshly pressed clothing. She has taken a merit-system examination and looks forward to obtaining work so as to increase the family income. She is much more positive in her relation with Johnny and is feeling less subdued in the presence of her husband's family. Johnny, as the result of all this, is a much healthier and happier boy.

How the public-health nurses help

The public-health nurse finds the children who need our services, helps them to receive successful treatment, and follows up to help the parents carry out the clinic's recommendations.

Whether the primary purpose of a nurse's visit to a home is to see a pregnant mother, or some other member of the family, she usually finds a child who needs the services provided by our clinic. When she finds such a child, she tries to prepare the parents and the child so that the clinic experience will be as pleasant as possible. At the clinic, she tries to see that the children are happy. For example, she provides opportunities for them to play together while waiting.

One of the two public-health nurses who work closely with the other clinic personnel helps the doctor with his examination. The other nurse explains to the parents, and sometimes to the child, the medical findings and recommendations; sometimes she needs to guide them to other community resources. She coordinates her work with that of the doctor, the medical social worker, and the nutritionist.

The nurse closely observes the child's progress at home and in school, and when he needs additional care she helps in getting him back to the clinic.

In the case of Johnny, mentioned previously, the nurse recognized that the state of his mother's health was jeopardizing the chances for improvement in his own health. And so she planned with the mother to meet her health needs, and helped to see that she received medical care. After the mother was treated for a secondary anemia, she showed greater interest in Johnny's health and followed clinic recommendations.

The nurse is ever alert to children's health needs—physical and emotional—and she works to help them to be healthy and happy.

A joint review by the clinic staff

One of the more valuable parts of our work is the postclinic conference, at which the clinician, the social worker, the nutritionist, the clinic nurse, and the director of the city-county health unit sit down together to review and discuss the various aspects of cases—the diagnosis, the medical treatment, and the socioeconomic factors in the child's life.

We exchange notes

At this time each worker asks any questions he wishes. The director of the health unit, for example, finds out what he should do for the child. The clinic nurse gains information that helps her in instructing the nurse who will make follow-up calls in planning the patients' future relation to this clinic or to other clinics. Also, administrative problems that come up are ironed out at these sessions.

Procedure to be improved

At present, a summary of each patient's contact with the clinic is sent to the referring source only after the patient has been discharged from the clinic. But in the near future, when we hope to have more clerical help, we plan to send a letter at the time of the child's first visit to the clinic, acknowledging the referral, giving the tentative diagnosis, and outlining the proposed plan for diagnosis and treatment.

The outstanding characteristics of our program are: (1) We try to see that every child referred to us receives complete health care; (2) we run the clinic as an integral part of the program of a local health department; and (3) we spend comparatively little money.

What about money?

As for the cost, we can report that during the clinic year recently completed we spent only about $2,000 (exclusive of regular health-department expenses such as salaries and rent). Of this sum, $465 was for the salaries of part-time clinicians and laboratory technicians, and the remainder was for laboratory work and hospitalization. Of course, we are fully aware that without the use of the health department's facilities we could not have done the work at this small cost. However, we feel that our experience may serve as a stimulus to other communities to try to see what can be done without much money, and we hope that in the near future similar clinics will be established elsewhere in our State.

ADOLESCENTS HAVE SPECIAL HEALTH PROBLEMS

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YOU may well ask why there is a need to give special consideration to adolescents' health and how their health problems differ from a child's or from an adult's. It may seem to you that this title suggests the need for another specialist, for someone especially trained in the care of the teen-age group. Adolescents *do* present problems peculiar to their age; a few of their problems will be discussed here, but they are not grave and they do not require another specialist.

Adolescents chiefly require that the family physician, the pediatrician, and parents and teachers treat them *as adolescents*—not as little children, not as adults. They are not little boys or little girls any more: they aren't adults yet; they are individuals who are *beginning to be adults*. When this fact is really understood many of the matters characteristic of adolescents will no longer be problems; if it isn't, the adolescent will continue to be an enigma.

The attitude adults take toward adolescents is much more important than a knowledge of those few medical conditions that are peculiar to, or of special significance in, that age group. A brief discussion of a few of those topics may, however, be of some value, and it will give further opportunities to reiterate the necessity of interpreting these individuals in terms of the particular age group to which they belong.

They want to know about maturity

No subject that concerns adolescents needs more special knowledge and attention than does growth and development. The 8- or 10-year-old child and the 30-year-old adult have little interest in height or strength or weight or state of maturity; interest in those matters is either ahead of or behind them. But to the adolescent boy they are matters of vital concern; he wants to know if and when he will be taller, when his whiskers will be as obvious as his friends', whether his chubbiness is going to persist. Those matters are serious to him; they often need patient explanation and understanding.

If an adolescent is tall and heavily bearded at 14, he will be expected to be as responsible as his appearance suggests he should be, and yet he will be told he is only 14 whenever he seeks the "privileges" usually granted to the 17-year-olds he resembles; little wonder that he seems rebellious when restricted, and is awkward when allowed to "act his size." The 16-year-old who shows no signs of needing to shave, and who may be no taller than many 14-year-old boys, may worry—may think he is "abnormal." His anxiety will be intensified by height-weight-age tables and by thoughtless adults who believe that an "average" height is the optimal one.

There is nothing orderly about growth during adolescence. There is no one way of growing or maturing that is better than another. One boy or girl may at 14 have arrived at practically an adult size or state of physical development; another at 16 may be little different from many at 13. Neither is abnormal, and yet obviously neither is "average." Real abnormalities in growth are rare; wide variations from the average are common.

What is needed is to understand this so that some adolescents who vary considerably in one direction can be reassured that they *will* grow, that they *will* mature; and so that others who deviate as much from the average in the other direction can be understood for what they are—just overgrown colts—not what they seem to be. All of them need to learn that there is no way of growing that is better than another, that their way is the best way *for them*. A few will need more reassurance than that; a rare one who has made no progress toward growing or growing up or who has matured or grown very rapidly should have a careful examination.

Each grows in his own way

Too much examining, too early and too impatient a use of "hormones," too much or too thoughtless a comparison with "average" tables, an off-hand comment that "you need thyroid," can convince a perfectly normal adolescent that he is abnormal. To be abnormal in growth or development is a very serious matter in the mind of a 16-year-old.

There is no better way of demonstrating the wide variation which exists among 14-year-olds than to measure and examine a large group of them. All shapes and sizes and states of maturity will be there. Very few will be just "average," but there will probably be none who is really abnormal. If adolescents can be made to understand that each grows in his own way, that one way is no better than the other, they will be spared at least one source of anxiety.

There is a tendency to protect young children from measles and mumps and chickenpox and whooping cough; this may be desirable if a child has recently had a severe illness, but otherwise it is short-sighted prevention. To avoid chickenpox in childhood is to invite it in

adolescence, when absence from school is of more consequence; to defer mumps from childhood to adolescence is to transform it from a minor ailment to a disease whose complications (orchitis, for instance) can be of significance.

There is no question that immunization against such illnesses as smallpox, diphtheria, and tetanus is imperative; such diseases are too serious to risk at any age, but efforts to prevent children from having some of the mild illnesses are rarely wise. It is never "convenient" to have chickenpox, it always spoils a school attendance record to have mumps, but it is better preventive medicine to get them over with than to defer them until adolescence or adulthood.

Aside from the business of "getting them over with," there is something to be said, from the standpoint of mental health, for not making a fuss about preventing them. Some illness is inevitable and it is wise to let children learn to accept, not fear or dread, *all* illness. After all, even a cold and "flu" have some immunizing value, and an occasional illness can keep us from losing all sympathy with the sick. The way to avoid letting the contagious diseases be a problem in adolescence is to get these minor ailments over in childhood!

Adolescents need immunizations

Only one other matter relating to infectious diseases is of particular relevance in adolescence. Immunizations against smallpox, diphtheria, and tetanus should be taken care of during a child's first year and repeated every few years; too often these are forgotten during adolescence. Those initial immunizations won't protect forever; the chances are that after a few years every one of them has lost its effect. If any one of them has not been given within the previous 5 years, it should be given attention in adolescence.

A "booster" dose will probably suffice for tetanus toxoid; a Schick test will tell if there is still immunity against diphtheria; a revaccination will take care of smallpox. Adolescents need this protection. Because they had those immunizations in childhood and because adolescents usually seem so healthy, it is easy to forget to renew them. None of those diseases is limited to childhood; they are just as prevalent, if not more so, in adolescence and adulthood.

Strenuous activity will not hurt teen-age boys who are well, and well-conditioned by exercise.

How they look at health and illness

The most important part of an adolescent's health education, his attitude toward health, starts in early childhood, but it needs reinforcement from time to time; and also a few new facts and matters are appropriately added as he gets older. If, because of faulty training and exposure to bad example, he has failed to develop a rational and objective way of thinking about illness, if he tends to use symptoms as an excuse, if he has the "pill habit," it isn't too late for us to try to change all this. Certainly, no bit of factual information is as important as his attitude toward health and illness. It is of more consequence for him to view illness objectively, for him to be more interested in finding causes than in taking pills, for him to avoid hypochondriasis as well as recklessness than it is for him to acquire a smattering of physiology.

Given a healthy attitude toward health, the adolescent will benefit from some factual information. He should know something about growth and the different but normal ways in which young people mature. At this age he is capable of learning more about nutrition.

Mature judgment and reluctance to "take a chance" are hardly typical of adolescents; ways to avoid accidents is one of the most important of their health-education subjects. Many of them will want to know something about acne, how much sleep they should have, and whether strenuous exercise is really harmful. Sex education has real meaning for them now, and simple matters of mental hygiene will be better under-

stood. Their interests and needs in this field are genuine—and not identical with those of children or adults.

Teen-agers and the doctor

An adolescent's answer to such questions as how he feels or whether his vision is bothering him is usually a denial that anything is wrong. He doesn't want to think that anything is the matter; he resents the implication that he has what he considers to be an abnormality.

So his denials need interpretation, and his sensitivity to thoughtless comments is worthy of attention. He doesn't find it "interesting" that he has a supernumerary nipple; he will have to be assured that it isn't a cause for worry or shame. A "variation from the norm"—an "abnormality"—is never insignificant to him. He isn't a little boy any more, he isn't a man yet. The adolescent wants to be like everybody else; he doesn't want to be unusual. His little brother doesn't care; he doesn't even mind "My, how you've grown" very much; and his father will boast about having the most unusual hernia the surgeon ever repaired.

Not only these attitudes toward various findings, but the interpretation of the findings themselves, and some of the things one looks for, are different in adolescence. High blood pressure, particularly in youngsters who are tense, or are unused to medical examinations, is common, but only very rarely of any significance. Albuminuria is not usually a sign of kidney disease, when found. Only very rarely should either of these findings be considered to be of any consequence. Basal-metabolic rates are liable to misinterpretation: In adolescence they fluctuate considerably from time to time, their normal limits are wide, and the basis for their calculation is at the best only approximate. The adolescent's thyroid is far from stable, but in time it will straighten out if it is left alone. If an adolescent's thyroid really seems worthy of attention a serum cholesterol determination is a better supplement to an evaluation based on his general appearance, on the moistness of his palms, and on his heart rate than is his basal metabolism. There is a real difference between mother's "putting on a little weight" at 40 and Susie's or Billy's chubbiness at 14; they probably don't need any "thyroid" even though it may be desirable for her.

Backache—lower back strain—is relatively common in adolescence. In this age group special causes are to be looked for, and different types of treatment may be successful. At all events the back is not just to be strapped with adhesive, and the backache is not to be regarded as something that is unfortunate but to be interminably endured. Either inflammation or deformity may be present in the spine; an X-ray will determine that. Bad posture, a protuberant abdomen, and a deep lower back curve may be the aggravating factors. Flabby, weak muscles may need strengthening. There are things to do for an adolescent's backache; rarely surgery—and frequently exercise (after the acute stage) rather than rest—will be beneficial.

At an adolescent's medical examination there are a few things to look for which are of more significance to them than to older or younger people. Acne is the bane of their existence. It is difficult to treat, but to say you can't do anything for it just adds discouragement to dismay. It is just as important to make a few suggestions as it is to explain the relation of acne to the process of maturing. The status of his or her color vision may be of consequence to the boy who wants to be an aviator or the girl who is planning on a career in interior decorating. Pilonidal-sinus infections and plantar warts are at least a nuisance and should be cared for. A testis still undescended after puberty probably requires an operation; to wait longer is to invite its sterility. Not the least of the values of the adolescent's health examination is the opportunity it affords for getting acquainted with the one whom the adolescent should regard as his own physician—not the family's, but his. It offers a chance to ask questions, to get advice, to talk over matters which concern him. Be sure that by the time they are adolescents, boys and girls go alone to the doctor: it is *their* examination, *their* health. It should be their chance to seek advice and ask questions.

When they feel disturbed

Major psychiatric difficulties are not common in adolescence, but the number of adolescents who are partially or temporarily handicapped by minor disturbances of their mental health is large. The precipitating factor will often differ from those that affect an adult (it may be the loss of a "best girl," or failure in school, or worry over failure to mature, or inability to reconcile the acceptance of authority and the desire for independence), but the disorder can be as acute and as demanding of attention as an adult's.

Don't attempt too much

The treatment, however, can differ from that given an adult. It can be more brief; it usually need not be as thorough. Adolescents usually talk more freely, get what is on their minds off more quickly, and seem to benefit more from less intensive treatment than do adults. That is not to say that all they need is a chance to talk things over; often they require much more than that. But they apparently benefit most when not treated in too ponderous a fashion, when too much is not attempted, when the physician or psychiatrist has a good understanding of the problems and attitudes and groping for understanding peculiar to them.

When they really need a psychiatrist's help they readily accept it; they have no prejudice or embarrassment unless it has been aroused by an adult who felt that there would be reluctance, that there was need for coaxing and persuasion. It is good for them to learn young that their mental as well as their physical ailments are amenable to treatment.

What failing in school can do

Neither parents nor physicians need to try to become experts in educational matters, but failure in school is of so much importance to an adolescent's mental health that it often has to be considered as a possible cause of some of his physical as well as psychological difficulties. Most adolescents want to do well in school; they may not like school, but most of them appreciate the value of an education. Those who say they don't care are usually rationalizing, protecting their self-esteem. However, not all people were ever intended to be students; some do not have the capacity, others have no interest in academic sub-

jects; a few have specific disabilities that are a handicap in school.

Nausea, headaches, fatigue, behavior problems—all those and many more may arise out of the frustration and anxiety which failure in school produces. An adjustment in the school program, a decision to pursue a course based on the child's intellectual capacity rather than a parent's hopes, a correction of poor vision or hearing, or the detection and remedying of a language disability may well eliminate the symptom or solve the personality and behavior difficulty.

Confidence may be lost

These matters are more acute in adolescence than at other ages. Failure in school at this age means that a decision to continue or to drop school must be made; when it occurs in those who have done well during the easier early grades, it can be depressing and lead to loss of confidence and to feelings of inferiority; it means that a hoped-for career may have to be abandoned. School failure affects younger children and persons in their twenties, but at no age is it so apt to cause trouble as in the early teens, when it cannot easily be excused on the basis of childishness or dismissed with the comment that "he might as well go to work."

Tonics, vitamins, eyeglasses, thyroid, or more discipline won't help a youngster who is "run down," who fatigues easily, or who has eyestrain or emotional outbursts, if his real trouble is his worry and a feeling of frustration over failure in school. It is a cause of these symptoms which has to be given consideration at this age more often than do anemia, infection, or metabolic disturbances.

Let them exercise

Little children play games; adults are interested in athletics; but teen-age boys are violent competitors. They go at their games hard; they take them seriously. Athletics are important to them; they offer an outlet for their excessive energy, an opportunity to learn to win and lose gracefully, for developing the spirit of cooperation and team play. Not to appreciate their significance, to underestimate their importance in the boy's mind, is to make a considerable error; the decision to tell a boy that he has to give up some game should not be made lightly.

There are very few adolescents who should not be allowed to compete in athletics. There is no danger of their being "strained" if they are properly trained, and very little danger of their being injured if a few precautions are taken. Even the boy with heart disease can be found a place as a "goalie." It is important to try to make him feel that he is little different from others, that he can be part of a group.

We should realize that adolescents are not children, not adults—they are in a transition stage.

A boy who is "well-conditioned" won't be "strained." The way to get him into condition, so that strenuous exercise won't tire him too much, is to let him exercise. The more he is protected from being strained, the more he is rested, the more likely that subsequently strenuous exercise will strain and overtire him.

If we are sure that he is well, has a good heart and lungs, and doesn't become so tired at his exercise that he loses weight, has little appetite and sleeps poorly, there is nothing to worry about. Too much restriction, too much solicitude, make for more maladjustment and neuroticism than protection from such a remote possibility as damage from exercise can ever justify. The admonition "avoid fatigue" doesn't promote the development of a state of physical condition which would itself be the best safeguard against strain and fatigue.

Adolescents, their ailments, their physiology, their behavior, their attitudes, their activities—all the matters that affect their lives and their health—need special consideration. They aren't "problems." Adolescence is much too hopeful an age; "problems" has much too gloomy a sound. The adolescent's outstanding characteristic is his capacity for change; his growth, his behavior, his physiology have not yet settled into their adult molds. That may make him a little more difficult to understand (it certainly makes it imperative that we not judge him by adult standards!) but it permits us to believe that time—and a little humble guidance—may be all that is needed.

TEAMWORK FOR BETTER HEALTH PROGRAMS IN SCHOOLS

H. F. KILANDER, *Assistant Specialist for Health, Office of Education, Federal Security Agency*

IF a program for the health of school children is to succeed, everybody concerned in it—teachers, school administrators, and others—should understand the goals of the program. Every teacher, especially, should be well prepared for his or her pivotal part in carrying out this important phase of school work. Many of the teachers graduating from teachers' colleges within recent years have received such preparation; but large numbers need to be prepared on the job if they are to help carry out the health program in today's schools.

Work conferences are increasing

Improvement of health programs for the school-age child owes much to the development, over the last two decades, of work conferences. An informal count showed that about 300 such meetings on various phases of the health of school children were held in 1948. And undoubtedly as many, or more, have been held in 1949 and will have been held in 1950 before the year is over.

These work conferences on health services for school children are a form of in-service education that has grown out of the old-time teachers' institutes. The chief difference between the old way of helping teachers to teach better and the current on-the-job way is that the present method follows the principle of education that learners should take an active part in their own education. The work conferences are democratically organized. No longer do teachers listen to lecturers for the full duration of an institute. No longer do they get their in-service training with other teachers only. Now, in the successor to the institute, all members have a definite responsibility in the probing into actual problems. These are problems that members of the group have encountered in their work. The conference attempts to work out ideas that members may put into action at home and so solve the problems discussed.

Teachers may find that their fellow conference members, besides other teachers and school administrators, are nurses, doctors, dentists, nutritionists, social workers, members of school boards, or representatives of parent-teacher associations. The nurses and doctors are usually from the public-health field, either from official health agencies—State or local—or from voluntary health agencies. The differences in thinking that exist among workers of different professional backgrounds are valuable in a work conference like this. They tend to insure that all angles of a problem will be explored and they bring out each member's best explanatory efforts to make his position clear.

How do these conferences work? Here's a brief answer to that question. (In the next article, "Arkansas Works to Improve Its School Children's Health," Jeff Farris describes a series of such conferences.)

How a conference gets under way

A staff is necessary, of course, headed by a director who is qualified in the techniques of democratic group study, sometimes called "group dynamics." The director and those responsible for the work conference arrange for the services of specialists to serve as consultants—in this instance, specialists in the field of health services for children of school age. These consultants compare with the authorities who used to lecture at teachers' institutes. In the work conferences they work *with* the group so as to bring out best the fund of knowledge and experience that members have, as well as to place their own specialized knowledge and experience at the service of the group. They help members keep their different interests, attitudes, and opinions focused on the problem under discussion, and they guide the talk persistently toward a solution of the problem under discussion.

Because many of the members of a work conference may be unfamiliar with the way a group like this gets its work done, the first session is usually taken up with a thorough discussion of the methods usually followed. After this setting of the stage, the problems to be discussed are listed and a way of classifying them into groups for study is considered. Perhaps a committee is elected to do this classification.

At the second session, this committee reports. Discussion of the report and acceptance of it makes the formation of "working groups" possible. Each group will concentrate on one problem—possibly more than one, depending on the number of problems and the number of members of the work conference. The best size for a work group has been found to be from 10 to 15 persons. That number usually assures enough information and experience within the group to make discussion profitable, and yet it is small enough so that everyone can be expected to contribute to the discussion. Members continue in the same work group during the whole conference. They are free to choose their group.

How are expenses met?

The director and the consultants decide which groups the consultants can work with to greatest advantage. They help their groups get started, but after a chairman and recorders have been elected, the consultants confine themselves to their advisory roles, doing no directing. Other groups may call upon them for specific help. They stay with those groups only as long as it takes to give the advice asked.

Each group examines and defines its problem and plans the way to study it in order to arrive at a conclusion. The work groups are coordinated so as to avoid wasted effort and duplication in the subject matter discussed. This is done through periodic progress reports from the work groups to the whole body and by meetings of the director, consultants, chairmen, and recorders.

If evaluation of the work conference

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ARKANSAS WORKS TO IMPROVE ITS SCHOOL CHILDREN'S HEALTH

JEFF FARRIS, Executive Secretary, Arkansas Health Education Workshop Committee

ARKANSAS has just completed its third work conference on health education in its schools. This makes three such conferences, held in three consecutive summers.

The 1950 work conference has come up with tangible accomplishments. One is the writing of a handbook on school health programs in Arkansas for the use of school superintendents and principals. Another is a report of the progress made by certain "pilot" school centers in the special phases of the school health program on which they have been concentrating.

Definite plans for further extension of health programs grew out of the 1950 conference. The colleges of the State participated. Study groups will be formed during the 1950–51 school year in each district of the State where teacher-training institutions are located. All public-school and public-health people in these areas will be invited to participate. These invitations will be given by the State departments of education and health.

A section of the annual meeting of the 75 county school supervisors has been allocated to the health of the school child.

Looking ahead

Plans are already in the making for another series of conferences during the summer of 1951, designed to study the effectiveness of the "Handbook for Health in Schools," prepared at the 1950 conference.

A joint committee of key people from State departments of health and education, formed at the 1949 conference, is functioning and will devote most of its efforts during the coming year to promoting the use of the handbook.

But first I want to say that this summer's work is not the first accomplishment of the series of work conferences—also called "workshops"—nor is it the beginning of the series' influence on the development of an effective school health program in the State. The work conferences are providing a good share of the motive power for the State's current efforts to improve its health services for children of school age.

To point the way

These efforts take the form in Arkansas of a "pilot school health program." That means that a few school centers in the State have been selected to develop a complete health-education program. These can serve as examples of what can be accomplished if all a community's services for children are focused on the schools in the interest of the children's health.

The idea for this pilot school health program was born 3 years ago on a hot June night in the men's washroom of a parlor car as it sped toward Little Rock from Florida. A small group of Arkansas educators were returning from the 1947 meeting of the Southern States Work Conference at Daytona Beach, where 2 weeks had been spent in studying the school health problems and wider community health problems of the Southern States. The consensus of the Arkansas group was that in their State, where far too little was being done for the health of the child of school age, the idea of accomplishing more should be pushed beyond the talking stage. In the group were a representative of the State department of education and of the State board of health and a faculty member from Arkansas State Teachers College.

Representatives of these three agencies, meeting some weeks later, decided to start the ball rolling. They planned to select a few school centers in which they knew they could get cooperation from the school administrators for building up, through close cooperation from the three State agencies, a complete health-education program. These school centers would serve as pilot centers to demonstrate what a well-planned, thoroughgoing, well-supervised program could do to improve health conditions, health attitudes, and health instruction in the schools and in this way to help children to be well and to be interested in keeping well. Such a program would be manned, or backed, by doctors and nurses of the community (including those on the staffs of official agencies and private practitioners as well) and teachers and other school workers.

We choose three pilot school centers

Three school centers were chosen—one in a semirural community, one in an industrial area, and the third in a city where the school system has reasonably good school health services and a qualified staff.

In each center a complete health program was put into action. To that basic program of three parts (health services, healthful school living, and health instruction) two other parts were added in each of the centers chosen. One of these was a public-relations program planned to keep the people of the areas informed of what was going on and to bring them into the work in every way possible. The other part added was the evaluation of each school-health program as it progressed in a pilot school center.

The idea of having a complete school health program was well received by the people of each center chosen, as well as by the school administrators, and so the work got off to a good start.

At the end of the school year 1947–48, key personnel from each of the five pilot school centers met to review what had

At the Arkansas work conferences on health programs for school-age children, key personnel from the pilot schools meet to review and evaluate what has been done under the programs.

been done under the new program. The meeting was a 2-week work conference, arranged jointly by the State board of health and the Arkansas State Teachers College. The setting of the conference was a delightful mountain lodge—Mather Lodge—in wooded Petit Jean State Park. The participants—40 in number—were key staff members from each of the pilot centers, aided by 4 consultants. One of the consultants was from the Office of Education of the Federal Security Agency, one from the Virginia State Department of Education, one from the North Carolina State Department of Health, and one a member of the staff of the American Medical Association. The Children's Bureau of the Federal Security Agency, through the Arkansas State Board of Health, provided funds for the conference.

The 1949 and 1950 work conferences were also open only to selected school administrators and teachers from pilot school centers and from other school systems especially chosen, and to public-health nurses, sanitarians, and health educators individually selected by the State board of health. Sixty attended in 1949, an increase of 20; but 60 is the limit of attendance because no more than that can be housed and fed at Mather Lodge.

The 1948 work conference established a permanent organization—the Arkansas Health Education Workshop—with an executive committee empowered to continue operation in the years to come. This permanent organization decided (1) to keep on with the work in the original pilot centers, (2) to start work in at least five new centers during the following school year, and (3) to hold another workshop in the summer of 1949. The report of the 1948 work conference disclaims completeness or finality, but it is comprehensive enough to be of practical help to school staffs and groups interested in planning school health programs.

As we workers had hoped, the idea of more and better school health programs caught on. Many schools asked to be selected as pilot centers for the 1948–49 school term. But our supervisory workers were so few that the number of schools had to be limited.

However, the executive committee of the Arkansas Health Education Workshop decided to establish five more centers, two of which would comprise all the schools in two counties. Both counties are mountainous, and the people are largely rural.

It was in these two counties that some of the most interesting accomplishments came about. Arkansas State Teachers College agreed to parallel the programs in these counties with a field course in health education, giving credit of six college hours to teachers completing the course. One hundred and thirty-nine teachers enrolled. Results were beyond expectation. Fathers and mothers came from all parts of the school districts to hear the program explained. School busses brought the parents to the meetings and took them home. The children entered enthusiastically into all phases of the program. The doctors, nurses, and dentists of the localities gave willingly of their time and skills, often with little or no remuneration. Health councils were established in all the school centers and became the agencies that activated the programs.

Parents formed study groups for learning more about what school health programs could do. These groups scored in practical accomplishments as well as gains in knowledge. They helped to repair some of the school buildings, long in need of attention. Most of the local civic clubs asked simply, "What do you want from us?"

One of the outstanding results for the teachers who took the field course in health education was their new knowledge about the emotional development of children. Some of them learned for the first time of how vitally important a good, understanding relation between teacher and pupil was to the emotional health of both. Few, if any, of the teachers complained because the health-education program added extra work to their daily schedules, already full. The school administrators not only were cooperative but were eager to have their units meet all standards set as a minimum for the program and then surpass these standards.

A second 2 weeks' work conference was held the next summer—1949—in the same mountain lodge. Again, 60 persons, most of them from or connected with the pilot school centers, were selected to take part. Funds from the Children's Bureau again made the work conference possible.

The subject matter discussed was realistic, as it had been before. It was made up of problems that had become evident during the winter in the pilot school centers and had been listed for the attention of the work conference. From the list of 34 problems, a committee selected for study 6 that it considered of major importance. The committee felt that the solutions arrived at would help newly chosen pilot schools in overcoming these very problems.

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WHAT ABOUT THE SCHOOL-AGE CHILD WHO IS EMPLOYED?

ELIZABETH S. JOHNSON, *Chief, Division of Child Labor and Youth Employment, Bureau of Labor Standards, U. S. Department of Labor*

MANY of us think of the daily activities of children of school age as getting off to school in the morning, doing classroom work for 6 hours or so, reporting home after school, and then enjoying the release of play suited to their age.

We know, of course, that they may do some other things after school, such as helping at home or practicing on the piano; and the teacher may have given them homework to do. But few of us realize that a great number of teen-age school boys and girls are employed regularly outside of school hours. In April 1950 there were 1,900,000 boys and girls 14 through 17 years of age at work. Of these, 60 percent had jobs and also went to school, and 40 percent had full-time jobs.

Some boys and girls may go to work even before they go to school in the morning, as well as working after school, and others begin their work directly after their school day is over. And, unfortunately, many work late at night as pinboys in bowling alleys, ushers in theaters, soda clerks in drug stores, and so forth. Many at 16 and 17, and some younger, have left school entirely.

Programs for the health of children of school age should surely take into account children in this age group who are employed, whether they go to school and are employed outside school hours, or have left school to take a job or to look for a job—and are still looking for it. Many of these boys and girls need health services as much as other children of that age—probably more.

For the protection of the children, teachers interested in their pupils' health will want to know what they do outside school hours. A child, especially an adolescent, may be doing something that is having an ill effect on his growth and development. He may have a job that in itself is too much of a strain for him—too long or too late hours—or is too dangerous for so young a worker. Aside from that, if he goes to school and works regularly at a job—whatever kind of job he has—this double burden may be entirely too much for him. In that case the teacher or someone else from his school should talk this situation over with him and his parents. The answer may be to shorten the hours of work or to defer employment until the child is older—or until a school vacation period. If the need for money is serious, student aid should be sought.

Is the job suited to his strength?

Program planners should surely see that health services are provided for boys and girls about to go from school to employment. Each pupil thinking of making this change should have a medical examination to determine whether he is in good physical shape for any kind of work permissible under the child-labor laws, or if he is not and therefore should do only restricted kinds of work. That is, he should have medical advice that will protect him from undertaking a burden unsuited to *his* particular strength and capacity. Much of the physical energy of boys and girls in their teens goes into growing; undue stresses and strains may cause a break in health, perhaps one easy to overcome, but maybe a really serious one.

Many States through their child-labor laws already require a medical examination before an employment certificate (also called a work permit or working papers) can be issued for a child to work. Most of these States require such an examination for children under 16 years of age, but the States with the best laws for the protection of young workers require it for boys and girls up to 18.

On the basis of a medical examination the issuing officer may refuse a certificate altogether, or he may issue a certificate limiting the child's employment in some way. This limited certificate permits the boy or girl for whom it is issued to work on a certain job for only a limited period, the interval to be stated in the certificate. This procedure allows time for correction of defects and provides an incentive to the child to get his

Children who are employed need as much health protection as children in school, if not more.

remediable physical defects corrected.

The problem of medical examinations for working children has received a great deal of attention from the International Labor Organization. International standards, in the form of conventions on medical examinations for young workers, were adopted in 1946. Two countries have ratified these conventions and they have served as a guide for many other countries wishing to improve their programs for working boys and girls.

Whether an employment-certificate system is to succeed in protecting the health of employed children depends largely on the strength of the laws requiring such certificates. All of us who are interested in strengthening health services for children of school age should give our support to State legislation requiring a medical examination before any boy or girl under 18 may enter employment. We should also work to improve the quality of the examination and to increase its use. It is desirable that the authorities responsible for issuing employment certificates designate the examining doctor and that he be one who is accustomed to considering the physical condition of boys and girls in relation to specific jobs that are offered them. Either the local health department or the health service in the schools may provide the physicians and other personnel and facilities necessary for the work. In any case, the examining physician will find that the child's health record is a useful aid in considering the medical history.

A medical examination for a child when he first enters employment is not enough. He should be reexamined each time he changes jobs. This is provided for in the better State child-labor laws.

These medical examinations for employment should be supplemented by follow-up medical care. A way for boys and girls to have their health defects remedied should be arranged for, if necessary, through community services.

Starting his work career is an important step in the life of a young person. It is also an important station in his process of growth toward adulthood. It is a time when he may be helped to enter a new phase of his life with the advantage of good health.

HEALTH SERVICES NEEDED

(Continued from page 9)

actually has heart disease, and even in this small group some are capable of normal activity. The fruits of accurate diagnosis in this instance are readily apparent. There are many more illustrations, such as the fat child falsely termed an "endocrine case" when he simply eats too much; or the child with large tonsils, which are actually normal at his age, who is started on the road to tonsillectomy too hurriedly.

The need for specially trained personnel and diagnostic facilities is by no means limited to those concerned with physical disorders. Emotional maladies are a conspicuous problem among children of school age, and resources for their diagnosis are essential to proper treatment.

Accurate diagnosis should do more than point the way to treatment. When a child and his parents understand the nature of an affliction they are more apt to seek treatment than when the problem is simply brought to their attention. Motivation as a factor in seeking medical care has been generally overlooked with the result that follow-through has suffered. Thorough understanding of a child's health disorder also leads to more sympathetic understanding and help from those who are around him. While scientific facts about an ailment are a primary concern only to those who treat him, a lucid explanation of the nature and significance of his troubles is also due those who give him nonmedical guidance.

More treatment services needed

The question of treatment services for children of school age coincides in many ways with the problem as it affects all ages: There is a scarcity of physicians, dentists, nurses, and others who provide these services, and most of those available are concentrated around urban centers. Treatment is usually expensive and there are many who cannot afford it unless the costs are spread out by insurance. There are also many people who, because of fear or ignorance, do not avail themselves of treatment when they might do so.

These problems are not new; they explain to a large extent the disparity that has always been noted between the number of children known to need treatment and the number who obtain it. The problem is magnified at the present time, however, by scientific progress, which offers a wider range of treatment services. There is therefore a great need to solve these problems so that the health needs of children in the school age which coincide with the needs of persons of all ages may be satisfied.

Treatment should include rehabilitation

The most pressing needs for treatment in the school age will not be met, however, by simple multiplication of conventional services that meet the usual requirements of all ages. The measures most needed are those for the relief of progressive disability and handicaps of nonemergency nature. Such a program will demand creation of new treatment services rather than expansion of those already in existence. It will also require broadening of the concept of treatment to include rehabilitation.

Some advances have been made in this direction, but so far they are mainly exploratory in nature. Programs for conservation of hearing, for rehabilitation of crippled children, for special education of children suffering from cerebral palsy, and for conservation of vision have already shown that this sizable section of the child population, who are not sick in the accepted sense of the word but whose development is seriously frustrated, has needs that have never before been touched.

Specifically needed is extension of treatment services mentioned above so that more children can be benefited. Also needed is wider development of facilities and specially trained personnel for dental treatment, alleviation of malnutrition, treatment of emotional disorders, correction of speech impairments, and treatment of epilepsy and allergy. The list could go on, for the health problems of children of school age, ignored or considered untreatable in the past, are numerous. Actually, they can be overcome or mitigated, but careful planning and special consideration for this age period will be required.

GOOD FOOD HABITS

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whether the lunch is nutritionally adequate. It is true that on cold days there is considerable advantage to serving a hot meal, although the advantage is psychological rather than physiological.

The research staff has explored ways of encouraging children to eat all the foods served to them and to try new foods. In cooperation with the classroom teachers, the lunchroom has developed as a laboratory for learning. Children share in menu planning; they have studied the way plants and animals are nourished; they have inquired about the resources of their community, and as a result home gardens have increased in number; their interest in social behavior and table manners has increased, with consequent demands to know how to set the table, use silver, and converse with one's neighbor; lessons in art, writing, and arithmetic have naturally followed along the lines of practical food problems.

And the results can be seen. The children are more alert; physical and dental defects are being corrected; more and more parents are coming to the schools and helping with some phases of the program; dentists, civic clubs, county agents, and other groups are sharing in some of the activities.

Members of the research staff have also participated in parent-teacher-association meetings; they have conducted workshops for training school-lunch managers; they have prepared monthly leaflets on nutrition and the school lunch, and nutrition materials for the use of teachers. All these things have been done in order to see whether the school lunch can be an effective means for improving the health and well-being of children. Sufficient progress has been made to give a positive answer with regard to its success.

Achievement of such a program demands the attention not only of the school-lunch manager. It also demands the concerted efforts of the classroom teachers, the parent-teacher association, the public-health nurse, the welfare worker, and all who take part in the care of children. These should all have a sound knowledge of the principles of nutrition and should also practice these principles in their own daily living.

ARKANSAS

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The six questions were: (1) What is the responsibility of school and health personnel in making the child's whole environment conducive to his physical and mental health, and how can we fulfill this responsibility? (2) How can professional and nonprofessional personnel be prepared to carry through a satisfactory health-education program? (3) How can a specific health-education program be provided and integrated with all school activities? (4) What is the health-education problem characteristic of the average Arkansas school, and what can be done about it? (5) How can we provide more and better health services in the schools and in the community at large? (6) How can we extend the facets of a health-education program implied in the first five questions into all schools—and all communities—of the State?

The 1949 work conference decided that each school that had served as a pilot center for a year should, during the school year 1949–50, start to develop some special phase of a health-education program, such as making a complete evaluation of the program, or providing care for children needing special education, or rearranging a school plant and orienting its staff toward achieving the good relations between teachers and pupils that tend to promote a sound development of personality. The work done on these projects would serve as the subject matter for study in the 1950 summer work conference, which as THE CHILD goes to press, has recently ended.

If any one part of the work done in the Arkansas pilot school program can be called the key to its success, it is the thorough planning that was done with all local groups interested in the health of school-age children in the communities of the school centers chosen for demonstration. Only slightly less important in achieving the results is the complete cooperation among the three State agencies sponsoring the program.

What the people of Arkansas can thank the pilot school centers and the three sponsoring State agencies for is that the idea of promoting health-education programs in the schools throughout the State is on a determined march. Each step benefits children.

TEAMWORK

(*Continued from page 33*)

is to be attempted—an excellent feature to include—this should be planned at the first so that a reviewing committee can be elected and can work out a way to study the conference while it is in session. Its report usually points out the conference's successes and failures and makes recommendations for improving methods of work.

Many practical questions will arise in the minds of those to whom work conferences are new. How are the costs paid and how are the expenses of the members met, such as transportation, food, and lodging? These items may be paid for individually by the participants, especially when those who take part are students regularly enrolled at the college or university sponsoring the work conference. In other instances, provision may be made to meet the expenses of members through scholarships, fellowships, and stipends from a variety of sources, most frequently voluntary health agencies and public-health departments.

The work conferences on the health of school-age children that are independent of colleges are usually organized by voluntary health agencies. Often several such agencies pool their resources to finance the conference and to supply staff members and consultants.

What about credits? Most of the work conferences are connected with institutions preparing teachers; and credit, undergraduate or graduate, may therefore be given. The conference may not last as long as a regular course would last, but the amount of college credit may be determined by the time members spend in actual group study.

How long do conferences last? The most frequent length seems to be about 10 days or 2 weeks, although the range is from a few days to 6 or 8 weeks. A work conference's chief values are to thresh out difficulties that have arisen in the course of its members' daily work and to create enthusiasm for the program. It should not outlast the number of live, on-the-job problems.

This threshing out of actual difficulties in a democratic way is a long step toward achieving teamwork for better health programs in schools.

MENTAL HEALTH

(*Continued from page 11*)

class periods of the year, the student is being taught that this is a dangerous, anxiety-fraught area, which it is best to evade.

If mental health is something to be taught, discussed, learned, and practiced in every aspect of the schools' work, there is no easy way to provide it. The teacher, next to the parent, has the heaviest responsibility in developing a sound generation. She, or he, should be carefully selected, be trained thoroughly in child nature and child development, be highly paid, and be accorded a respected position in the community.

Meanwhile, we can be hopeful for and can do our best to foster certain trends. Teachers in practice are coming in increasing numbers to summer courses and conferences, and asking for in-service training in order to understand the emotional development of children and the relation between children's needs and the curriculum. Psychiatrists can endorse these courses and contribute to the teaching of them. Physicians can, as individuals and members of professional groups, reiterate in talks and papers the vital importance of good schools and good teachers—even if our school expenditures have to climb to the level of our liquor or cosmetic or tobacco expenditures.

I should like to add a word about the nursery school. Anyone who has worked closely with a first-rate nursery school, or with children who attend one, knows what a difference it can make in a child's spirit and in a parent's attitude. The therapeutic value of such experience has not received the scientific attention and clarification it deserves. Nor have possible modifications of nursery-school procedures been experimented with, to see, for instance, how diluted the schedule of attendance can be and still be helpful to children with various difficulties. This would seem a field of considerable promise, both for research and service.

To summarize:

Schools are a fertile field for mental-health efforts. A variety of approaches have been developed, singly and in combination. They can be most effective when combined. The psychiatric team, psychiatrist, psychiatric social worker, and psychiatric nurse can treat the most disturbed children, safeguard the therapeutic work of the guidance counselors and remedial teachers, and teach appropriate aspects of emotional growth—and disturbances—to the entire school staff. Guidance counselors and counseling teachers will have to carry most of the burden of guiding children with minor problems, at least until we have many times our present number of psychiatrically trained workers.

The guidance staff should have the advantage of psychiatric supervision, or at least consultation, whenever and as soon as possible.

School nurses and social workers can contribute greatly, especially if they have continued training or supervision.

Mental health in the curriculum should be an integral part of it, or rather the essence of it. This requires a long-range program of teacher selection, reoriented undergraduate training, and, in the meantime, intensified in-service training in understanding and fulfilling child needs.

• FOR YOUR BOOKSHELF

HELPING BOYS IN TROUBLE; the layman in boy guidance, by Melbourne S. Applegate. Foreword by Joseph H. McCoy, General Secretary, Big Brother Movement, New York Association Press, 291 Broadway, New York, 1950. 124 pp. $1.75.

The author of this book has had a long and rich experience in serving as a big brother to socially maladjusted boys. He is a business man, not a professional social worker. But he has found time during an active business career to give freely of himself to boys in trouble.

The book contains a wealth of practical information on how to establish and maintain a helpful human relationship. It includes advice on handling problem situations and considers the place of the boy's family in the relationship between boy and big brother. The information and advice contained in the book grow out of a philosophy based upon deep and abiding faith in the worth of all boys and upon great respect for the individuality of each.

Recognizing the great contribution which the volunteer can make to society's efforts to help children and youth in trouble, social workers will wish that the author had given us more about the role of the volunteer as a member of the social agency team. However, the book should have real value to persons interested in serving as "friends to boys." It expresses the kind of respect for and belief in people which should be basic to the human relationships of all of us.

Richard Clendenen

• CALENDAR

Aug. 31–Sept. 7—World Federation for Mental Health. Third annual meeting. Paris, France.

Sept. 4–9—American Psychological Association. Annual meeting. State College, Pa.

Sept. 5–7—National Council on Family Relations. Annual conference. Denver, Colo.

Sept. 18–21—American Hospital Association. Annual convention. Atlantic City, N. J.

Oct. 2–6—National Recreation Congress. Thirty-second annual meeting. Cleveland, Ohio.

Oct. 7–11—National Conference of Juvenile Agencies. Forty-seventh annual meeting. St. Louis, Mo.

Oct. 9–12—American Legion. Thirty-second annual national convention. Los Angeles, Calif.

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". . . a child comes to school with his mind clothed in a body; with a tangled web of emotional reactions which neither he, nor anyone else, fully comprehends; with social drives which will make him or break him, depending upon the understanding he receives both at school and at home; with conflicting hereditary and environmental forces pulling him in several directions at the same time."

—Mary Irene Atkinson, quoted in "Mary Irene Atkinson Speaking for Children," Cheney C. Jones and Gertrude Springer, editors. Parthenon Press, Nashville, Tenn., 1949.

Publications Available

Single copies of the following publications may be had without charge by writing to the Children's Bureau:

Directory, Public Training Schools for Delinquent Children. Pub. No. 264. Revised November 1949.

Moving Ahead for Children and Youth; program of the National Commission on Children and Youth. Pub. No. 329. 1949.

Guardianship; a way of fulfilling public responsibility for children. Pub. No. 330. 1949.

Essentials of Adoption Law and Procedure. Pub. No. 331. 1949.

The Confidential Nature of Birth Records. Pub. No. 332. 1949.

Services for the Child Who Is Hard of Hearing; a guide for the development of programs. Pub. No. 334. 1950.

Children Are Our Teachers; outline and suggestions for group study to be used with "Your Child From 6 to 12." Pub. No. 333. 1949.

Further Progress in Reducing Maternal and Infant Mortality; record of 1945 and 1946. Statistical Series No 4. 1949.

Homemaker Service in the United States and Canada; a directory of agencies. 1950.

1947 Chart Book; infant and childhood mortality, maternal mortality, natality. 1949.

A State Program for Staff Development in Child Welfare. 1949.

Training House Parents. 1949.

Trends and Developments in Public Child Welfare Services. Child Welfare Reports No. 4. May 1949.

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